NEW REMEDIES.

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EDITORIAL.

IF we may judge by the circular published on page 309, the Committee on the Pharmacopœia appointed last month by the American Pharmaceutical Association has gone so promptly and earnestly to work that we have the strongest hopes of the success of its labors.

Other societies working independently of the American Pharmaceutical Association, will, it is reported, prepare suggestions for the revision of 1880, with the view of submitting them to the National Convention. The result in this case must be either that the same ground will be gone over and similar conclusions reached, or else a variety of methods and opinions will be urged, with more or less force, by organizations which represent a much more limited region than the one covered by the American Pharmaceutical Association. The former would be a sheer waste of skilled labor and a calamity in every sense, while in the case of conflicting reports, the Convention (or its committee) may either undertake the labor of combining the essential features of all the propositions submitted, or may do with them just as it has done with other suggestions at former revisions—simply ignore them. If, however, the final Committee of Revision untertake in good faith to harmonize conflicting suggestions, they will be burdened with labor which can quite as well be done in great part by the Committee of the American Pharmaceutical Association, with the result in the latter case of saving time and adding to the harmony and efficiency of the Convention in 1880.

It would be a wiser plan of action for local associations to decide upon and communicate to the committee of sixteen, the features which will best adapt the Pharmacopœia to their own wants. Any surplus energy may well be expended in assuming some part of the labor of arranging materials for the complete work which the committee are expected to have prepared in time for the meeting in 1879.

It is not very likely that the American Medical Association, as a body representing the physicians of the country, will make any corresponding effort to prepare suggestions, which shall indicate to the Convention what therapeutical agents are most desired by them; but the Association would certainly do much, by such a course, to relieve itself from the discreditable position which it now occupies in relation to the Pharmacopœia.

There remains, however, a fact to be considered which is of supreme importance. In 1880 the several medical and pharmaceutical bodies entitled to representation will be called on to send delegates to the Convention.

Whether the suggestions of the American Pharmaceutical Association or any other organization are accepted and considered by the final Committee of Revision, will depend upon the character of the delegates of whom the Convention is composed. The opponents of the plan of revision proposed by Dr. Squibb, insist that the faults have not been in the present system, and that all he claims for his method could be accomplished by the old one. It is well known, however, that coincidently with two revisions, suggestions have been made to the Convention, and by it have been referred to the Committee of Revision, with positive instructions, and that the result has been *nil.* This has become so well known that the medical and pharmaceutical professions will have only themselves to blame, if, in 1880, they send delegates who will permit another repetition of this course, and allow the gratuitous, but none the less arduous and careful labors of the Committee of the American Pharmaceutical Association, to be pigeon-holed

like the voluminous suggestions which have preceded them.

It is a cause for regret that Dr. Squibb should have had occasion to decline the chairmanship of the committee—a position to which both his knowledge of the subject and the exceptional interest he has shown in the revision of the Pharmacopœia well entitle him to hold. No better proof could be desired, however, of the unselfishness of the motives which have actuated him in his efforts to improve our national standard, than his reluctance to afford, by his presence in the committee, the least excuse for opposition to its labors. Such opposition would mostly be from those who, desiring the Pharmacopœia to remain in very nearly its present shape, and under the control of its former managers, have not scrupled to charge Dr. Squibb with wishing to advance his personal interests as the motive for the active part he has taken in agitating the question of revision.

In our notice, on page 283, of the annual announcement of lectures in the Medical Department of the University of Michigan, we omitted to include the Medical Department of Syracuse University among the medical schools which are doing most to advance the standard of medical education among us. We are, therefore, glad to publish the letter of the Registrar of the latter institution, and to add our indorsement of the course which it has been pursuing, and of the character of the instruction given.

A meeting has recently been held in this city to take preliminary steps towards organizing a Therapeutical Society. We have already expressed our opinion of the need which exists for such an association of physicians, and shall anticipate with great interest the development of its plan of operations, which, we understand, will aim to promote our knowledge of therapeutics by careful observations of the action of selected remedies in specified conditions.

A Whale Abattoir in Norway.—On a small island opposite to the town of Wadsö, in the extreme north of Norway, an establishment has been founded by a Norwegian, Mr. Foyn, for the regular capture and slaughtering of whales. Small steamers go out to the fishing grounds, which are within easy reach of the island, and the capture is effected by firing from a cannon an iron bolt armed with four harpoons, and provided with a shell which explodes as soon as the whale makes traction upon the line. The carcasses are towed into the harbor and worked in the usual manner.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Iodine—Its Past and its Future.

Ten years ago the only source of iodine was the so-called varec, or kelp—that is, the fused ash resulting from the incineration of various kinds of sea-weeds, chiefly algæ and fuci, growing on the rocky coasts of many countries, principally the British Isles and France. Since the smaller manufacturers of kelp along the Scotch and French coasts needed, about the time of the annual harvest, considerable sums of money to pay for labor and material, there sprang up the custom of borrowing funds from some large house in Glasgow, and of transferring to the latter the monopoly of the sale of the iodine and potassium chloride obtained from the kelp. This arrangement was first seriously disturbed by the discovery of the inexhaustible potash-mines of Stassfurt, which caused a constant decline in the price of potassium chloride, so that iodine, which heretofore had been merely a by-product in the preparation of potassium chloride from the kelp, became the only paying product to be obtained from the latter, and therefore had to be raised in price to cover all expenses. Just about the same time there arose a great demand for iodine for the manufacture of certain aniline colors, all of which resulted in raising the price of the drug successively from four to thirty pence per ounce.

When, in 1871, the mother-waters of the Chili saltpetre obtained in the Peruvian mines were found to pay by being worked for iodine, the Scotch monopolists ridiculed the news at first, but soon found that they had met a formidable rival, and in consequence thereof endeavored to get control of the new source. They, however, found it uphill work to negotiate with the rich Peruvian miners, whom they could not buy up as they did the small Scotch kelp-burners. The mother-waters in the Peruvian mines, which perhaps were not as rich in iodine in former times, had heretofore been allowed to run to waste, until it was ascertained that they could be made to yield iodine with profit, when the owners at once started the necessary works and pocketed the unexpected extra profits. In the beginning the process was carried on in a very primitive way, but, in consequence of improvements made by chemists engaged in England and Germany, the method and product soon improved, and in a few years was fully equal to that produced in Scotland, containing 99.5 per cent. of pure iodine. [It may be observed, *en passant*, that the usual appellation "Chili iodine" should be replaced by "Peruvian iodine"]. The new source of iodine naturally had a great influence upon the price. A considerable reduction was brought about, particularly by forced auction sales, until in 1876 the price had come down to 5 pence per ounce. At this price a large majority

of kelp-manufacturers had to give up the production, and even larger firms, in spite of improvements in process and apparatus, could only work at a loss. On the other hand, the Peruvians, who had been induced, by the high price of iodine, to enter into its manufacture, likewise found the production becoming unprofitable, as the climate not only causes more expenses for wages, fuel, etc., but even occasions greater loss by volatilization. In consequence of this condition of things, negotiations were started, which led to an agreement, entered into during last February by all iodine manufacturers, to place the sale of *all* the iodine produced into *one* hand, whereby the price was raised, first to seven, afterwards to ten and one-half pence per ounce. This is about the market now, and has been for nearly five months; but since during last March, a quantity of iodine, equal to the whole consumption for six months, had been sold to one firm at nine pence, this quantity now runs opposition, as long as it will last, to the price of the monopolists. As soon, however, as this lot is sold, the market will be absolutely in the hands of the producers, who can ask any price they choose.

Regarding the near future of the article, it is only possible to give surmises. The convention was concluded for one year, until Feb., 1878, with a guaranteed price; but it is quite likely that it will be prolonged, as all producers are benefited by it.

The Scotch manufacturers, under the most favorable circumstances, cannot sell their iodine at present under eight pence; and on open competition, which might depress the price again to five pence, would have to stop work. The Peruvians maintain that eight pence is the price which the production of iodine costs them; hence, as long as this unanimity exists, this will have to be considered the lowest price of the drug for some years to come. At the same time it must be stated that the yield of iodine from the Peruvian mines is now so considerable that Peru alone would be able to supply double the demand of all nations, whence we may conclude that in future years its price will be much lower.

For the present we are sure of a stability of the price until February next, and probably also, in the event of a renewal of the agreement, for the next two years. After that period, however, it is more likely that an excess of production will result in a reduction of price.*—*Pharm. Handelsblatt*, No. 93.

Analyses of Patent and Secret Remedies.

THE *Industrie Blätter*, of Berlin, edited by Dr. E. Jacobsen, having offered to analyze *gratis* any patent medicines sent to them in the original package, the analyses of over eleven hundred such preparations, made by Drs. Hager, Wittstein, Rose, Chandler, Reveil, and others, have been collected together by E. Hahn, and published in book form. The following is the presumed composition of some preparations well known in this country, taken from a larger number given in the *Scientific American*.

Dr. Pierce's Golden Medical Discovery.—A one-dollar bottle holds 220 grains of a brownish colored, clear liquid, consisting of 15 gr. of pure honey, 1 gr. of extract of poisonous or acrid lettuce (Lactuca virosa), 2 gr. of laudanum, 100 gr. dilute alcohol (64%, tasting like fusel oil and wood spirit), with 105 gr. of water.

Asthma Pastilles (Daul, White & Co., New York), according to the analysis of Dr. Flick, contain 20.1% saltpetre, 3.5% impure resin of scammony, 35% gum and sugar, 40% charcoal powder, leaves and stems of some plants.

Ayer's Pills consist of pepper, colocynth, gamboge, and aloes.

Ayer's Hair Vigor.—A solution of 0.6% sugar of lead.

Horsford's Baking Powder.—One powder contains acid phosphate of lime and magnesia, mixed with a certain quantity of flour; the other is bicarbonate of soda.

Brandreth's Pills (says Dr. Hager) consist of gamboge, podophyllin, inspissated juice of phytolacca, saffron adulterated with yellow root, pulverized cloves, and oil of peppermint.

Dr. Brown's Chlorodyne contains 5 parts of concentrated muriatic acid, and 10 parts each of ether, chloroform, tincture of cannabis indica, and tincture of capsicum, 2 parts each of morphia and hydrocyanic acid, 1 part oil of peppermint, 50 parts simple syrup, and 3 parts each of tincture of hyoscyamus and tincture of aconite.

Tobias's Condition Powders contain, says Schädler, 2 grammes of tartar emetic, 20 grammes of black sulphide of antimony, 10 grammes of sulphur, 40 grammes of fœnum græcum, and 20 grammes of juniper berries.

Hamburg Tea contains 22 parts of senna leaves, 16 parts of manna, 8 parts of coriander, and 1 part of tartaric acid, ground up together.

Dr. Sage's Catarrh Remedy, says Schädler, contains 0.5 grammes of carbolic acid, 0.5 grammes of camphor, and 10 grammes of common salt, which are to be dissolved in ½ litre of water and injected into the nostrils.

Schenck's Mandrake Pills.—Hager says that these pills contain no mandrake. They do contain the constituents of cayenne pepper, a bitter extract, and some vegetable powder containing tannin.

Bishop's Granular Effervescent Citrate of Magnesia.—According to Löhlin, this contains neither citric acid nor magnesia, but is merely a mixture of bicarbonate of soda and tartaric acid.

R. R. R. consists of a reddish yellow liquid which smells of ammonia and camphor. It contains 14 parts of soap, 40 parts of 10% ammonia, 640 parts

* The tornado which occurred in June last, and which destroyed nearly all the nitre works in Peru (see Editorial on page 163 of our June number), may have the effect of modifying in a very decided manner the prospects referred to by this writer.—[ED.]

of alcoholic extract of cayenne or Spanish pepper, 4 parts of camphor, and 2 parts of oil of rosemary.

Mrs. Winslow's Soothing Syrup consists, says Hager, of 8 parts of white simple syrup mixed with 1 part of a tincture made by extracting 10 parts of freshly crushed fennel seed and 1 part of oil of fennel with 60% spirits.

Sozodont.—This reddish liquid consists of a solution of 5 grammes of oil soap in 6 grammes of glycerine, 30 grammes of spirits, 20 grammes of water, perfumed with a few drops of oil of peppermint, oil of cloves, oil of cinnamon, and oil of anise, and colored with cochineal. The powder is a mixture of carbonate of lime, magnesia, and orris root.

Worm Lozenges contain 1 part of calomel, 6 parts of santonin, and 290 parts of sugar.

World's Hair Restorer contains, says Wittstein, 5.6 grammes of sulphur, 8 grammes of sugar of lead, 100 grammes of glycerin, and 200 grammes of aromatic perfumed water.

New Apparatus for the Estimation of Urea.

As a continuation of the article on the Estimation of Urea, contained in our last number, we give a description of Depaire's apparatus, in which the urea is likewise decomposed by means of an alkaline solution of sodium hypobromide.

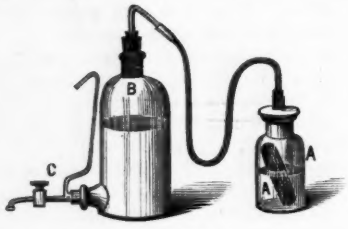


FIG. 1.—Depaire's Apparatus.

Fig. 1 represents one form of the apparatus. This consists of a wide-mouth bottle *A*, fitted with an accurately ground glass stopper perforated by a glass tube. It is charged with a quantity of sodium hypobromite solution sufficient to fill the bottle to about one-third of its height. The urine to be examined is introduced into the tube *A'*, which is of such a length that its contents cannot flow out, except by inclining the bottle. The gas is collected in the flask *B*, which has two tubulures, one above and connected with *A*, the other near the bottom and carrying the tube *C*, which enters by one end through the cork closing the lower tubulure, is provided with a faucet near the other end, and carries besides, as shown in the cut, an upright branch bent downward at the upper end, and open. When the apparatus is to be used, the bottle *A* is charged with the hypobromite solution, the tube *A'* containing 10 c.c. of urine is carefully placed into it, and the stopper inserted. This causes some water from the flask *B*, which at the beginning must be nearly full of water, to be discharged from the open end of the upright branch of *C*, after which the level of the water contained both in the tube and in the flask is made uniform by allowing some water to flow through the faucet. A measuring-glass (125 c.c.) having been placed under the faucet end of *C*, the contents of the bottle *A* and tube *A'* are mixed by gentle agitation, the faucet is opened, and the amount of water which the generated gas has pushed from *B* into the upward branch of *C* is allowed to run into the measuring-glass, until the level of the water in the tube is equal to that in the flask. The number of c.c. of water collected in this manner is equal to the number of c.c. of nitrogen gas evolved.

Fig. 2 represents another form of apparatus, in which the same generator, *A*, is employed, but the gas is measured in the graduated tube *B*. This is an elongated U-tube, of which one side, *B*, is graduated into cubic centimetres and tenths, while the other branch is not graduated, but is connected by a lateral tube with a reservoir of water, *C*, into which the excess of water may be allowed to flow from *B'*, and from which it may be made to run back into *B'* again by compressing the rubber ball *E*. The reaction having been started as in the first case, the generated gas pushes the water, which at the beginning has stood in *B* at the upper mark, over into *B'*, from which a sufficient quantity is allowed to run into the bottle, *C*, to produce an equilibrium of the two columns at the end of the reaction. In either case 38 c.c. of gas correspond to 0.1 gm. urea.

The difficulty of obtaining pure urea led the author to experiment with ammoniacal salts, for the purpose of preparing standard normal solutions. He found that the best substitute for urea is pure ammonium chloride. 17.833 gms. of this salt dissolved in water to measure 1 litre at 15° C., yield a solution, which gives off exactly the same amount of nitrogen as a solution of 10 gms. of urea in a litre of water.

The author also recommends to deduct 4.5 per cent. from the total amount of urea found, to eliminate the error caused by the simultaneous decomposition of uric acid and creatinin.—*Journ. de Pharm. d'Anv.*, 1877, 81.

Malaga Wine.

THE various sorts of "Malaga wine," namely, white tart wine, white sweet wine, Lagrima, Parajete, imitations of Madeira, Sherry, and Port, Moscatel and Tintillo, and the so-called 'Malaga Color,' are all made in the city of Malaga itself. The vintage generally takes place during the first half of August. The must is transported by donkeys to the regular wine-manufacturers, who at once pour it into large vats, and afterwards into strong casks which are left unbunged. After standing for about 6 weeks, it is mixed with 5% of alcohol and drawn off into other casks, in which the fermentation terminates and the wine deposits argol. More alcohol is added to the 'tart' than to the 'sweet Malaga' or to 'Lagrima.' The

latter, according to the statements of manufacturers, is the product of the ripest grapes, and exudes without pressure. No Malaga wine, however, is sold or used in its natural condition, but it is mixed with certain liquids, known as *vino tierno* and *vino maestro*, to impart aroma to the various sorts.

Vino tierno is made from grapes of the sort known as "Pedro Ximenes," by pounding them to a mass, moistening with one-third of their weight of water, and strongly expressing. The resulting liquid, after settling, is mixed with $\frac{1}{60}$ part of alcohol and set aside for use. Vino maestro is prepared and kept in smaller quantities; it is made by interrupting the incipient fermentation of the fresh must by the addition of 17% of alcohol, and thereby preserving the original aroma of the grape. Neither of these flavoring wines can be bought in the market, as each manufacturer prepares his own supply, sometimes with slight modifications of process. They are added in various proportions to the fully ripe wine, when the latter is about one year old, to make it *embocado*—that is, full-flavored and palatable.

Malaga Color is a white, either tart or sweet wine, prepared by the addition of two liquids, namely, "Arrope" and "Color." To prepare Arrope, sweet white Malaga wine is heated rapidly to boiling in a copper boiler over a wood fire, taking care to continue the boiling only a short time, and then letting it simmer down, in the course of about 24 hours, to one-third of the original volume. The product has the color and nearly the taste of a good Burgundy "Résiné," being only more bitter and having a burnt taste. It is of the consistence of thin syrup. This *Arrope* is added, in the proportion of 8%, to such white Malaga wines, of one year old, as are to be converted into brown wines. This addition, however, imparts more of a taste than color, and in order to produce the proper tint a quantity of the second liquid, *Color*, must be added. This is prepared from *Arrope*, 80 litres of which are placed in a copper boiler of three times the capacity, to prevent boiling over. By means of a brisk fire and with stirring, the liquid is reduced, in the course of four hours, to about 50 litres, when immediately a mixture of 8 litres of water and 24 litres of fresh must are added to bring the measure back to the original bulk. This *Color* is much darker than the Arrope, more liquid, and very bitter.

All Malaga wines are improved by age. Wine dealers are in the habit, when they have an order for a certain year's growth which is not in stock, to mix two wines of different years' production in the proper arithmetical proportions, and the product is said to be not inferior to the original.—*Drog. Zeit.*

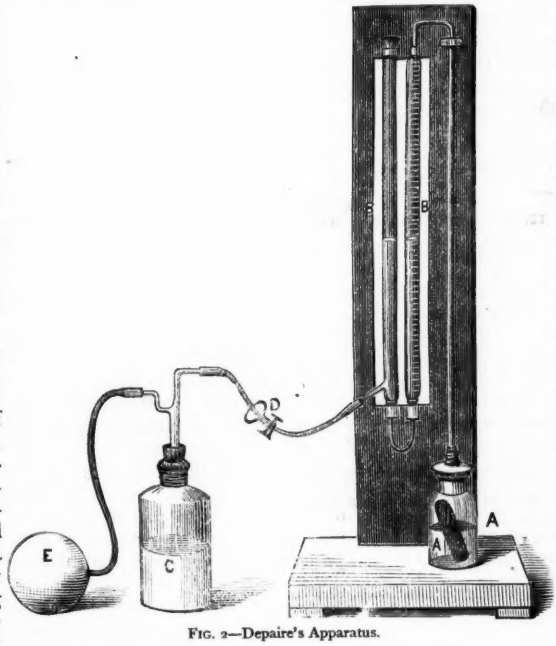


FIG. 2—Depaire's Apparatus.

On Javanese Rhubarb.

UPON Gunung Unarang, and other mountains of Java, at a height of 2,000–4,000 feet, a species of *Rheum* is found, the root of which forms an article of trade, and is termed *akar kelomba* by the natives, who use it as a cathartic. The various portions of the root have special trade-names, namely: *akar kelomba bras*, the upper piece of the root with the remainder of the stalk; *akar kelomba ketan*, the middle piece; and *akar kelomba ketaba*, the lowest piece. The middle portion is most esteemed. A detailed description of this Javanese rhubarb has been given by Mr. J. H. Schmidt, military pharmacist at Wilbem.* He describes it as fleshy, forming elongated or sometimes turnip-shaped cones. Here and there the original dark brown skin is visible, while the remainder appears peeled and speckled with white and red dots. Upon a cross-section the rays are seen to run from the centre to the circumference, crossing the red concentric rings, and appearing to stop abruptly where they reach the dark brown, firm and resinous cambium layer, which has a thickness of 1.1–1.5 millimetres. The middle concentric rings are bright red, and alternate with yellow rings. Upon a few fissures near the centre, caused by drying, fine white felty threads of silky lustre may be noticed, which are seen under the microscope to have a yellow color. A longitudinal section shows in the middle the almost rectangular parenchyma cells, which are partly filled with chrysophanic acid. The lens shows no

* *Geneeskund. Tijdschrift voor Nederlandsch Indie*, XVII., ii., 98.

raphides, but smooth star-shaped knobs of crystals, consisting of calcium oxalate. In odor and taste the root is fully identical with the Chinese rhubarb, but in activity it is at least one-fourth weaker than the latter, according to the observations of Dr. v. Vogelpoel.

Mr. Schmidt directed the attention of the government as early as 1874 towards the possibility of improving this variety of rhubarb by cultivation, so as to raise it to an equal rank with Chinese rhubarb. It appears to be abundant enough, as the Javanese, who generally charge high prices for their native remedies, only ask about 1 gulden (about 41 cents) per kilo of the best quality. As the therapeutic value of Chinese rhubarb is known to improve up to a certain age, the effect of any efforts on behalf of the government to improve the Javanese species will not be known definitely for several years.

Schmidt gives the results of comparative assays of Chinese and of Javanese rhubarb, which show considerable difference of composition. The following tables contain the results :

	Chinese Rhubarb.	Javanese Rhubarb.
Total Ash	12.15–12.24%	6.27–6.91%
Consisting of:		
Lime	46.8	41.7
Magnesia	4.2	5.3
Soda, potassa	7.3	16.9
Carbonic acid	35.3	19.2
Sulphuric acid	1.1	2.8
Phosphoric acid	5.1	6.8
Silica	0.6	2.
Chlorine	0.6	2.
Carbon and sand	0.8	3.
	101.8	99.7
Chief Constituents.		
Rheo-tannic acid	2.106 per cent.	0.430 per cent.
Phæoretin	0.151 "	0.090 "
Chrysophan	0.056 "	0.170 "
Chrysophanic acid	4.700 "	1.646 "
Emodin	0.580 "	2.000 "
Oxalic acid	Not determined.	

It is not known what particular species of *Rheum* is the source of this Javanese rhubarb, but the determination of this point is comparatively an easy matter, as the places of growth are easily accessible.—*Pharm. Handelsblatt*, No. 94.

Note on Rheum Officinale.

In connection with the preceding article, we quote a paper by Mr. E. M. Holmes, on the new species of Rheum, namely *R. officinale*, Baill., which has of late been supposed the true source of Chinese Rhubarb.*

"In some remarks made upon *R. officinale*, some weeks ago, the hope was expressed that a further opportunity of examining the root might clear up the doubts as to the identity in structure of the true Russian rhubarb and the root of *R. officinale*. During the past week Mr. Usher, of Banbury, has kindly afforded me this opportunity.

"A plant three years old was dug up and presented the following features : The sympodium or cluster of root-stocks differs from that of *R. rhaponticum* in its great size, and in the root forming a tuft at the base of the root-stocks, and not springing from their sides. When the root-stocks were trimmed by depriving them of the roots and small lateral shoots, they weighed on the average about 8½ pounds, the central one being about 10 pounds. The root-stocks were nearly cylindrical in shape, tapering very slightly to either end, and about 6 inches in diameter in the middle, and from 15 to 18 inches long. The roots on the average were 1½ to 2 inches in diameter near their attachment to the root-stock, and tapering downward. The root-stocks of some *Rheum rhaponticum* of eleven years' growth, which was lying near, were not more than a quarter the size.

"When the outer portion was carefully sliced off in different parts of the root-stock and root, it *nowhere* presented the appearance characteristic of the true Russian rhubarb. The cortical portion was then removed in several places (this being always absent in Russian rhubarb), and the meditullium or central portion sliced in like manner, but no trace of the network which so markedly distinguishes the Russian rhubarb could be seen. These marks are well represented in *Goebel and Kunze*, pt. II., tab. I., fig. 2 *b*.

"The transverse section of the root-stock also is not so finely grained, and although it is marked with many stellate spots, the markings are much larger and bolder than those of Russian rhubarb, and, in fact, approach more nearly to the markings on English rhubarb. The sections of the true roots present only a radiate structure without any stellate markings. In my opinion, the Russian root is produced by a plant which has a much less rapid growth than the noble *Rheum officinale*, Baill.

"From the English rhubarb the root-stock differs chiefly in its paler color, much larger size, and in the abundance of large stellate markings. As regards its medicinal properties, there is reason to believe that it is much stronger than the English kind, and probably equal to the East Indian. It will most likely be soon tried at two of the London hospitals, and a report upon its action will doubtless follow in due course and awaken considerable interest."—*Pharm. Jour. and Trans.*, IX., 181.

The Poisonous Dose of Castor-Oil Seeds.

It has long been known that the seeds of *Ricinus communis* contain, besides the oil, a peculiar acrid principle, which causes violent vomiting and purging, and which must be reckoned among the acrid poisons. Van Hasselts, a number of years ago, declared one seed to be sufficient to sicken a grown person, and twenty to be sufficient to kill him. This statement was contradicted by Bernelot

* Compare also the abstract of H. Werner's paper on *Rheum palmatum*, on page 305, and page 98, of April No.

Moens, who suspected that the seeds of another euphorbiaceous plant had been experimented with. But such was not the case; on the contrary, a number of well authenticated cases of poisoning by castor-oil seeds are on record, most of them from France, where the seeds are much in use for various purposes as a popular remedy. Chevallier mentions a case, with recovery, of a boy of seven or eight years, who had taken only one—at most, two seeds. Other cases of alarming intoxications are on record, after taking three or four seeds. In all European cases of poisoning, the number of seeds taken has rarely exceeded twenty. It should not be forgotten that the seeds are poisonous, both in their unripe and ripe state, and that the cakes remaining after the expression of the oil retain most of the acrid principle, and have often caused the death of horses and cattle.—TH. HUSEMANN, in *Pharm. Zeit.*, No. 67.

On the Equipment of a Small Pharmaceutical Laboratory.

AT the recent meeting of the British Pharmaceutical Council, Mr. G. F. Schacht (the president elect) presented a paper and drawings descriptive of some experiences in the equipment and working of a small pharmaceutical laboratory, which contained practical hints that may prove of value to our readers. Following a discussion of the question as to whether British pharmacists were in the habit of buying too many and making too few of the preparations they consume, he says:

"I long since came to the conclusion that it was best to make as many of the preparations we consumed as possible, and also that it was best to conduct operations of manufacture away from the interruptions of the shop."

. . . . . .

"The size of our firm's laboratory is 10½ feet by 13 feet, and it is 10 feet high. Its erection absorbed the last available bit of our back yard. We would gladly have extended its area a few feet had it been possible, but, space being peremptorily limited, our only course was to try and turn such as we had to the best account.

"Light being fortunately obtainable from the roof, the whole of the wall-space, with the exception of 2½ feet by 7 feet for the door, became available for fittings."

Of the four drawings which accompanied the paper, "No. 1 represents the west wall, through which we enter by the door on the left. It is almost entirely occupied by a stove and drying closet. The former is 16 inches wide, 20 inches long, and 12 inches deep, and is enclosed by a portion of the square hood of zinc, the other part of which constitutes the drying closet. The latter is divided by a diaphragm of zinc from the portion immediately over the stove, but the flue of the stove passes just within the diaphragm, and serves to keep the closet at a good drying temperature. It is supplied with four trays, each measuring 20 inches square. The flue inclines from the top of the hood to the main chimney in the corner; a large outer pipe accompanies it, and serves to convey to the chimney any steam or vapor that may be produced within in the stove-chamber or the drying closet, the heat produced by the flue, which passes through its centre, causing a good draught.

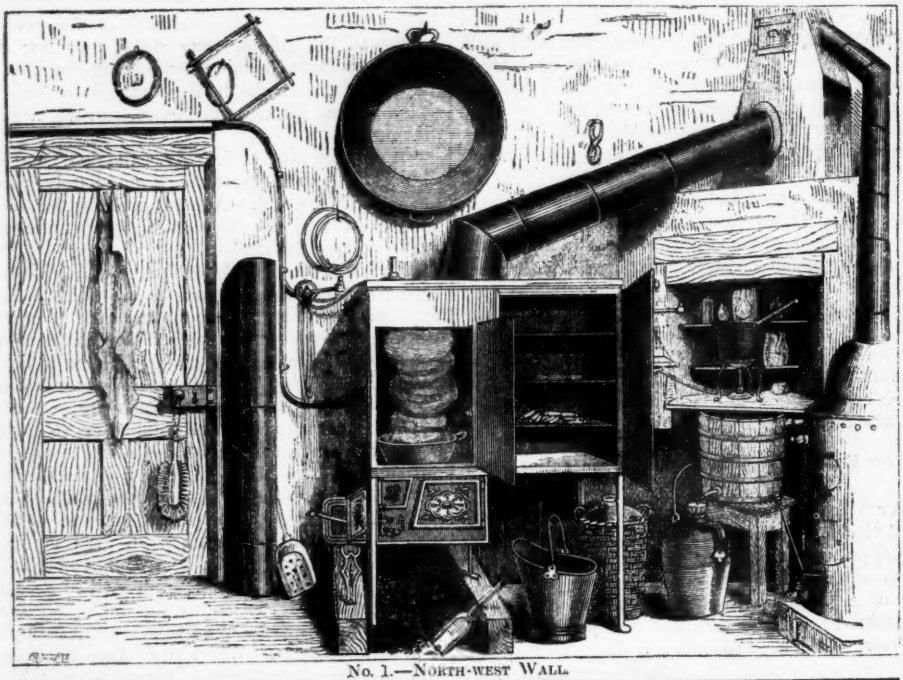
"The large pipe at the side of the door is a ventilating shaft, and the space immediately under the stove is for fuel. A small desk for the laboratory book and the diary stand against the wall at the right of the closet.

"In No. 2 (west wall) we see the main chimney, beneath which, and communicating with which, is the fume-chamber. This, for the sake of getting a little greater depth, is placed diagonally to the two walls, and measures about 2½ feet in height and width, and is 1½ foot deep. Its floor and two shelves are of slate, and the walls are cemented. Beneath this is a worm-tub, diameter 16 inches, height 15 inches, for the condensation of superfluous steam. The boiler of iron is immediately to the right; its diameter is 15 inches and its height 3½ feet. It holds about 8 gallons, and is fitted with a pipe connected with a main. It is equipped with the usual appurtenances: fire-box, safety-valve, pressure-gauge, etc., and is supposed to be equal to a pressure of 100 lbs. to the inch and more. The steam-pipe, passing off to the right, is supplied with sundry cocks. When all of these are closed, and the fire duly burning, the pressure within of course accumulates. If the cock at the back be opened, the steam passes into the jacketed apparatus which stands next. This consists of an enamelled iron pan or basin, of 10 gallons capacity, jacketed with iron, all of sufficient strength to stand a pressure of 30 to 40 lbs. to the square inch. Its outside measurement, exclusive of a 3-inch rim, is as follows: diameter 22 inches, depth 22½ inches, and it is held in its required position by an iron tripod. The jacket is provided with a safety-valve that blows off at about 20 lbs. pressure, and at the bottom a pipe and stopcock communicate through the jacket with the pan, through which the contents may be drawn off.

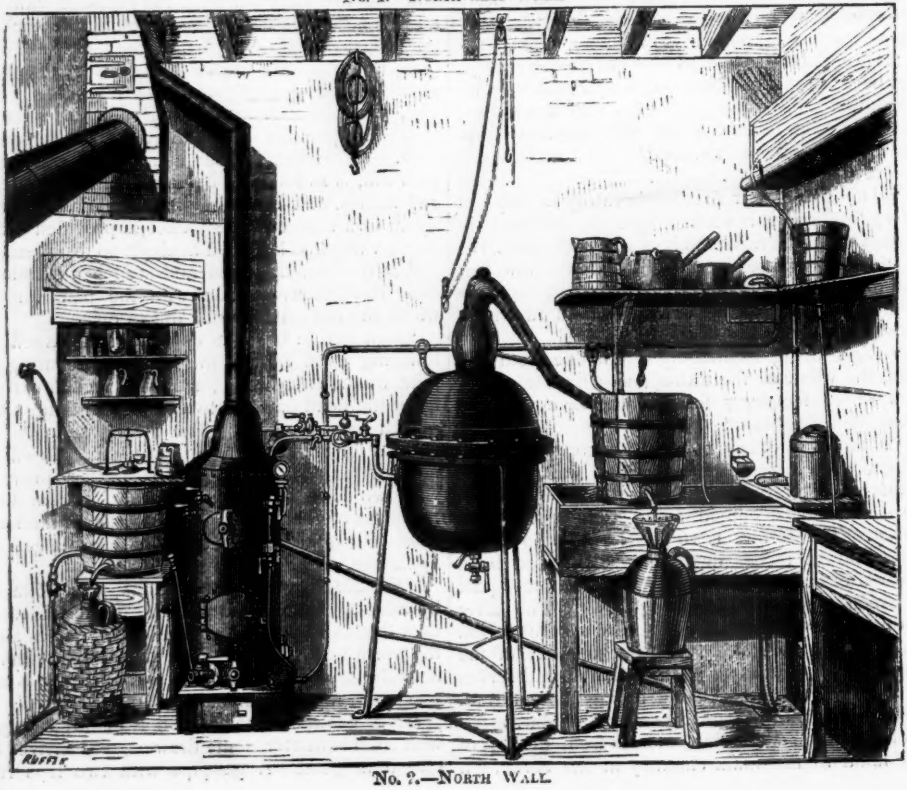
"This pan or basin is converted into a still by lowering upon its rim the head and securing the joint with a little luting; the swan-necked extremity of the head passes into a condenser temporarily placed over the sink. The arrangement is convenient for the recovery of spirit, etc. It will be noticed that the steam-pipe is further provided with two cocks opening to the front. From these, by means of good elastic tubing, steam of moderate pressure can be conveyed to any separate piece of apparatus, as we shall presently see.

"On the extreme right is a sink, 3 feet 6 inches by 2 feet. Water is introduced to the laboratory near the floor upon the west wall, and passes along the north wall over the sink to a small reservoir near the top of the east wall, and the pipe is supplied with taps at convenient spots.

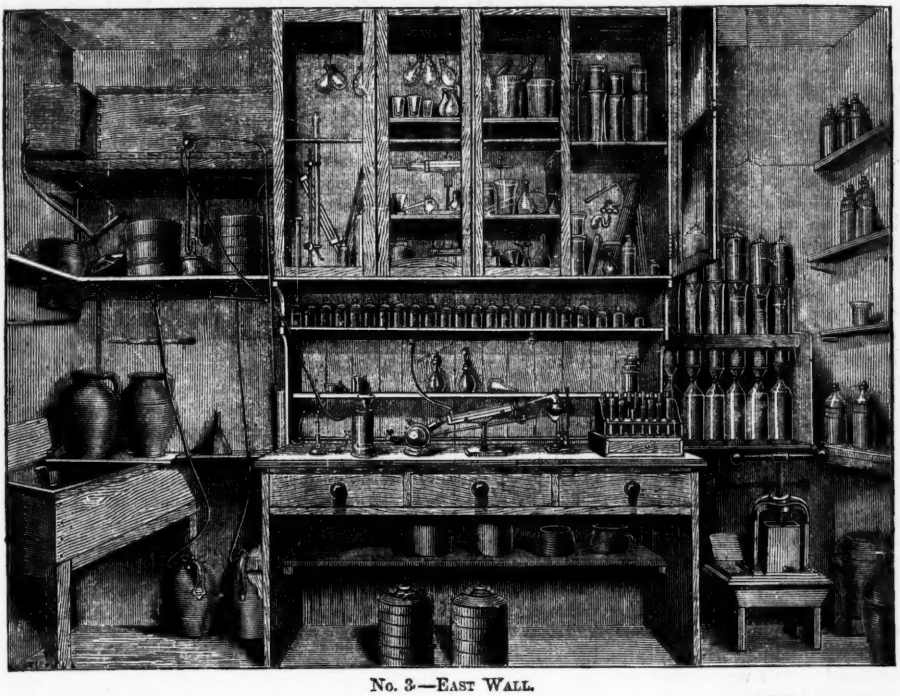
"No. 3 is the east side, and is mainly occupied with a deal counter, some drawers, and shelves enclosed in glass. A gas-pipe with two taps runs



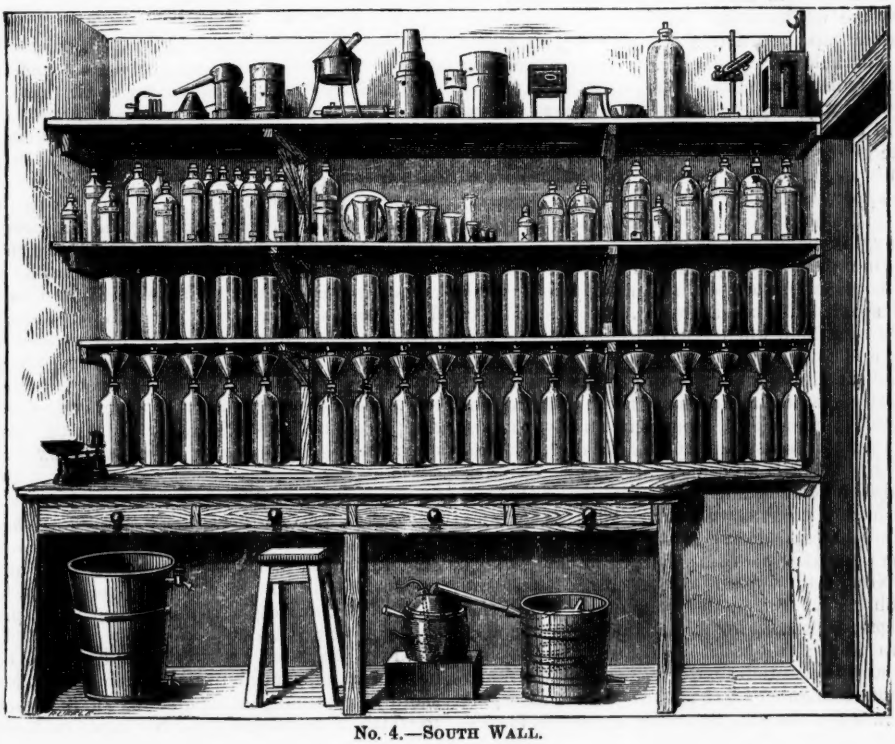
No. 1.—North-west Wall.



No. 2.—North Wall.



No. 3.—East Wall.



No. 4.—South Wall.

along the back edge of the counter, and a water-pipe, also with two taps, from the reservoir is conveyed along the front of the second shelf. Further, a waste-pipe, also provided with two taps, passes along the wall and inclines downward as it approaches the sink on the left; a Liebig condenser can thus be kept in continuous and cleanly operation.

"By the side of the rack of shelves on the left is placed one of Mr. Fletcher's arrangements for producing an air-blast for blow-pipe—it can also be applied as an aspirator. Still further to the left and in part over the sink are placed two of my own filters, holding two gallons each, for which we have very nearly constant employment.

"On the right of the shelves is a rack for six displacement-tubes with their accompanying receivers and reservoirs, and beneath them is a small press.

"Along the south wall (No. 4) runs a counter and a series of shelves. They are fitted for purposes somewhat special, perhaps, to our own particular business, and might be replaced by anything thought to be more required.

"Among the appliances here stowed away till required is the one employed in the preparation of distilled medicated waters. For this the two spare steam taps already mentioned have to be employed. The ingredients are placed upon a colander within the small still, the body of which is immersed into a vessel that acts as a jacket to it. Steam is now introduced into this jacket, and when the whole is well heated to boiling-point, the other tap is opened and steam is passed into the still below the colander. It then traverses the ingredients and passes out for condensation in the usual way, carrying with it the volatile constituents of the ingredients. I think distilled waters made by this method are more delicate in flavor than if prepared by any other plan. The size of this apparatus is only that of a large saucepan, but it is sufficient for the preparation of one gallon of any pharmacopœial water.

"One piece of apparatus more finds room in this large laboratory—it is a grinding mill. The wall space being all absorbed, a stout stand was made for it, and when not in use for holding this mill, it is covered with a top and converted into a table. It stands in the centre of the laboratory. The large stone and iron mortars are in an adjoining wareroom, and are brought in when required.

"I may further state that the floor of the laboratory is of Portland cement, the walls of brick faced with cement, and the roof is of open rafters, boarded and covered with zinc. The roof contains a fan-light [sky-light?] 4 feet square, capable of being opened at both sides for ventilation.

"Now, with regard to the cost. I find the building cost $223; the carpenter's, plumber's, and gasfitter's work for the internal fitting amounted to $172; the boiler cost $93; the jacketed pan-head and worm-tub, $87; the worm-tub under the fume-chamber, $18; the stove and drying closet, $37; the mill, $10; the apparatus for distilling medicated waters, $12; the blow-pipe and accessories, $4.64; sundry fittings, $32—making a total of £150 [or $696].

"The expense of working is very small. I burn nothing but coke in either the boiler or the stove, and I can keep them both going for a whole day with a consumption of less than a half hundredweight of coke, which, in my neighborhood, means about 5d. worth of fuel.

"Thus, at a cost for fire of 3d., I can supply 16 gallons of distilled water; or, supposing other wants to be more urgent, I can, for the same amount draw, say, 1 gallon of cinnamon water, 1 gallon of dill water, make a batch of 50 lbs. of syrup, and still have 3 or 4 gallons of distilled water as a by-product. To the many other purposes to which these appliances can be turned I cannot now refer, but I am sure they offer opportunities for doing many things with great convenience, and as well as the intelligence of the operator chooses.

"I hope that all who see and hear this communication will be good enough to remember that it is addressed only to the average pharmacist. The 'traditional' houses have long since supplied themselves with all that is good, and have not allowed the thought of cost to enter into the question. They are far past the necessity of any hint from me. But every house now 'traditional' had its beginning, and my chief purpose is to show at how little risk this early step in progress may be made."

In the discussion which followed the reading of the paper Mr. Greenish said that in his opinion a disadvantage of the drying cupboard described by Mr. Schacht was that, if the stove or fire was not always in operation, the drying process went on irregularly. Distilled water was always a difficulty with pharmacists, and he never could get any kind of apparatus which would give him the quantity required until he made an arrangement in connection with his kitchen boiler, by means of which he now had more than he could use. He had a close range in the kitchen, with a wrought-iron boiler, from which a 1½-inch pipe passed upward and on to the chimney-piece, where it was divided into two ¾-inch pipes; one passed into the area and had a valve upon it, and the other into the laboratory, where it terminated in a large coil of block tin, placed in a tank of galvanized iron to form a condenser.—From *Pharm. Jour. and Trans.*

Erythroxylon Coca.

The Boston Medical and Surgical Journal recently contained an article on Coca, by G. Archie Stockwell, M.D., which presents some interesting facts in relation to the production and uses of this drug, and especially its therapeutical properties. We quote only a portion:

"Like cinchona, the peculiar powers of coca have been introduced to the notice of the Caucasian by the aboriginal inhabitants of the country to which it is indigenous. No historical records

inform us when it was introduced to their notice, or who first discovered the hidden properties of its leaves. When the empire of Atahualpa was overthrown by the rapacious Pizarro, coca was as well known to the Peruvians as at the present day, and played an important part in their religion, being used in all public ceremonies as an offering to the sun-god.

"Although found in a wild state, like most other shrubs it is enhanced in value by cultivation, and hence none but the carefully nurtured domesticated variety finds its way to market. The sultry valleys of the eastern slopes of the Andes are most favorable to its growth, and it is here that a most systematic method of cultivation is adopted, the plant being raised from the seed.

"When the young shoots have attained a height of about fifteen inches they are transplanted in rows of a foot or more apart; when full grown they rarely exceed sixty-four or seventy inches in height. As it thrives best in damp situations, sheltered from the sun, it is customary, when such localities are not available, to plant maize between the rows because of its rapid growth, its leaves soon furnishing the required shelter. Certain species of palms are used for the same purpose. If no rain falls, the shrublets are subjected to copious and repeated drenchings.

"Like the coffee-tree, coca has a lustrous green foliage with white blossoms which ripen into small red, or rather scarlet berries. When the shrub has attained an age of eighteen or twenty months the foliage is stripped for the first time, the leaves now presenting an appearance not unlike those of the tea plant, being oval, pointed, and two or two and a half inches in length, with half that breadth at the widest part, and furnished with short, delicate foot-stalks; unlike those of the tea shrub, they are not dentate, and may be readily distinguished by a curved line running from base to apex upon either side of the midrib. The foliage is known to be ripe for plucking when the leaves become sufficiently brittle to break upon bending. After stripping, the leaves are spread out to dry upon woollen blankets in the sun, great care being taken to prevent absorption of moisture, which is known by the leaf acquiring a brown tinge; when properly cured it retains a pale green color. When the curing is completed the coca is packed in bundles or sacks of an arroba (twenty-five pounds) each, and carefully covered with dry sand until desired for the market. Coca never produces a depressing action, except as the result of an overdose of small quantities so frequently beneficial.

. . . . . .

"Tschudi cites as examples: several Indians who, never allowing a day to pass without at least three coceadas, attained the truly patriach age of one hundred and thirty years. As the ordinary food of the native Peruvians consists almost exclusively of roasted maize, barley, or seeds of the quinoa, which are eaten without any addition, they suffer with frequent and obstinate obstructions and derangements of the digestive system, which are entirely obviated by the use of coca. From the time the native becomes a coquero the troubles cease, never to recur, except with the abandonment of the habit.

"In moderate doses coca causes increased arterial activity, stimulates the alimentary secretions and peristaltic actions, diminishes weariness, strengthens the pulse, calms nervous excitement, retards waste, facilitates repair, alleviates spasms, and increases mental activity; in fact, it is an economizer of vital energy, and an effective aid to nutrition. It invariably contributes to mental cheerfulness, and withal not unfrequently causes unequivocal aphrodisia.

"Although one cannot look upon coca as a food, it will be found second only to alcohol in its food-replacing power; for this reason it will undoubtedly prove of value in low forms of fever.

"In large doses it has a decided action upon the kidneys, producing also watery stools, and, when long continued, gives to both urine and fæces a highly offensive odor, and renders the latter so acid as almost to destroy all vegetation with which they may come in contact; it also renders other excretions, as those of the lungs and skin, offensive. In these large doses it does not seem to affect the visual organs, as the pupils will be found freely contractible on the approach of light, and unless the doses are very heavy the eye presents an expression of combined merriment and cunning. Hunger seems never to be induced, but rather the contrary; yet, if the patient be coaxed to partake of food set before him, he eats voraciously.

"Of the physiological and therapeutical action of coca there is much to be discovered. It has been lauded as a hypnotic, yet its uncertainty of action will prevent its ever superseding the many other drugs of far greater value that we possess. It is, however, both anodyne and antispasmodic, exerting special influence upon the brain and spinal cord, and from its action upon the pneumogastric it will undoubtedly prove of benefit in certain forms of asthma. Its antispasmodic action has been vouched for by numerous South Americans. It is used by the natives to promote uterine contractions. Where inertia has supervened, I am told by Spanish-American physicians that its effect is both speedy and certain. In melancholia, or where nervous depression exists, its action in promoting cheerfulness is marked, and its influence upon the digestive functions, before noticed, will doubtless cause coca to be prescribed for many of the diseases of so-called dyspeptic character, and those irregularities arising from non-assimilation of food.

"It is said that certain of the Bolivian Indians inherit from their ancestors a mode of preparing and administering this drug so as to produce a cataleptic state so profound as to simulate death beyond detection, from which the patient may be aroused after the lapse of a few hours without serious results. I believe a mixture of cannabis

indica, opium, and certain other narcotics is used for the same purpose by the initiated among Orientals.

"Coca will produce sleep oftentimes when opium has failed, if given in repeated small doses for a little time before retiring to rest, in order to allow the preliminary stage of excitement to pass off; but, as a rule, it is inferior to the opiates, its action being extremely variable.

"For the last few years it has been fashionable to claim for every new drug a decided antiperiodic action, vaunting for it all the powers of quinia, and coca has not escaped. Administered in conjunction with quinia, it will, I doubt not, like opium, oftentimes prove a valuable adjunct. Give quinine to a confirmed coquero, at the same time depriving him of his solace, and you will frequently be disappointed in its results. Restore him his coca, and the action of the salt will be both speedy and certain. I have observed like results when prescribing for consumers of tobacco.

"From the action of coca as observed, the writer would give it to a patient suffering from cholera, with the expectation of happy results; its action is rapid, and vomiting and cramps would, I think, speedily yield to its influence. Larabie, Williams, and other travellers, have experienced almost instantaneous relief from coca when suffering from cholera morbus. Dr. Carvallo informs me that he has observed similar results from an infusion, and has known even the chewing of the leaf to act favorably. I have witnessed the same effects myself. It would not be at all surprising if it were proven that the coca caused a marked increase of the biliary secretions. I should also expect marked results from it in congestive chills, and particularly with flannels wet with ammonia spirits in which quinine has been dissolved to saturation, applied to the abdomen, as practised in Central America. But it is in hypochondriacal diseases that we may look for the greatest benefit from coca.

"I trust that the profession will thoroughly examine into the merits and demerits of the article, and give the full negative results of their investigations. I say negative, for that is the evidence demanded at the present day. We are overrun with positive evidence, all virtues being ascribed to all remedies to such an extent that we become lost in seeking information. What we now need to know is what medicines will not do.

"It will probably be found that the dose required for our climate will be much larger than that demanded in Peru. The best mode of administering is in the form of an infusion, the dose being about two drachms. The greatest drawback to its use is the liability to gather moisture, which renders it worthless. The fluid extract I would have but little faith in, for obvious reasons. If an extract be made of Erythroxylon coca one pound, rectified spirits four pints, prepared by maceration for seven days, pressing out the tincture and evaporating to a proper consistence, I think it would be satisfactory. The dose of such an extract should be one-fourth of a grain to two grains or more."

Extraction of Quinamia from Red Bark.

THE alkaloid quinamia was discovered by Hesse in 1872, in the bark of *Cinchona succirubra* cultivated at Darjeeling in British Sikkim. It contains one molecule of water more than cinchonia or cinchonidia, and differs from quinia and quinidia by having two more atoms of hydrogen.* According to Dr. E. de Vrij (*L'Union Pharm.*, 1877, 204), it is best prepared in the following manner: One kilo of red bark in powder is very intimately and carefully mixed with a milk of lime made of 250 gm. of lime and 500 gm. of water. The temperature of the mixture increases sensibly, owing to the oxidation of the cincho-tannic acid by the air and its combination with lime. It is stirred up occasionally during the succeeding 24 hours, so as to promote the conversion of the cincho-tannic acid into cinchona-red. At the end of this time the mixture is dried in a water-bath, and afterwards treated with 10 kilos of 95% alcohol, which is raised to boiling for a few moments, and then allowed to cool. It is now introduced into a long cylindrical percolator, and when the liquid has drained off, the residuary mass is completely exhausted by alcohol.

To the united alcoholic liquids enough sulphuric acid is added to render them decidedly acid. During the next 21 hours a quantity of calcium sulphate, formed by the decomposition of calcium kinate and quinovate, is deposited. On the following day the solution is filtered and distilled, until it has been reduced to 500 or 600 gm. It is then transferred to a capsule, the remainder of the alcohol evaporated off on a water-bath, keeping up the bulk by the addition of water, and the whole is finally made up to weigh 2,000 gm. by the addition of more water. This is saturated at a boiling temperature with dilute soda solution, and as soon as it is faintly alkaline 40 gm. of sodium and potassium tartrate are added. This causes the formation of a very abundant, almost crystalline precipitate of the tartrates of quinia and cinchonidia, which are but little soluble in water. This precipitate is thrown on a filter and washed; the filtrate and the washings are evaporated to 250 gm., and treated with 500 c.c. of ether in two separate portions. Cinchonia is thereby left behind.

* The formulæ of the 5 cinchona alkaloids are:

Cinchonia (Cinch.)	$C_{20}H_{24}N_2O$.
Cinchonidia (Cinchd.)	$C_{20}H_{24}N_2O$.
Quinia (Qu.)	$C_{20}H_{24}N_2O_2$.
Quinidia (Qud.)	$C_{20}H_{24}N_2O_2$.
Quinamia (Qum. +)	$C_{20}H_{26}N_2O_2$.

Flückiger summarizes the principal properties of these 5 cinchona alkaloids as follows:

1.	*Hydrated crystals* are formed by	: Qu., Qud.
	No hydrated crystals "	: Cinch., Cinchd., Qum.
2.	*Abundantly* soluble in *ether*	: Qu., Qud., Qum.
	Sparingly soluble in *ether*	: Cinchd.
	Almost insoluble in *ether*	: Cinch.
3.	*Laevogyre* solutions afforded by	: Qu., Cinchd.
	Dextrogyre " "	: Cinch., Qud., Qum.
4.	*Thalleioquin* is formed by	: Qu., Qud.
	No thalleioquin "	: Cinch., Cinchd., Qum.
5.	*Fluorescent* are the solutions of	: Qu., Qud.
	Not fluorescent " "	: Cinch., Cinchd., Qum.

The ethereal solution is distilled and the residue contains the *quinamia*, amorphous alkaloid, and a little cinchonia dissolved by the ether. The mixture is treated, first in the cold, then by heat, with about 60 gm. of diluted alcohol (equal parts of water and 95% alcohol), whereby all but the cinchonia is dissolved. The liquid, on cooling, deposits the quinamia in long needles, resembling quinia sulphate. Should some of the amorphous alkaloid begin to be deposited at the same time, the further addition of a little alcohol will prevent and remedy this.

Quinamia is distinguished particularly by the following two reactions:

1. The chloroplatinate of quinamia is very soluble in water, so that only very concentrated solutions of the alkaloid afford a precipitate with platinic chloride.

2. Chloride of gold precipitates quinamia, but the compound is rapidly decomposed or reduced, and the liquid assumes a purple-red color.

Substitutes for Quinia.

PROF. THEO. HUSEMANN, in the course of a long article, in which he discusses the relative value of those remedies which have at various times been proposed as substitutes for quinia, draws attention to an alkaloid, which alone can be regarded as a rival of quinia, standing in effectiveness between it and the other cinchona alkaloids, and which has fallen into undeserved oblivion. This alkaloid is *Bebeeria* (or Bibiria, according to Binz), obtained from bebeeru-bark, which is also used as dye-wood, and is derived from *Nectandra Rodiæi* Schomburgh, a tree belonging to the natural order Lauraceæ, and native of Guiana.* From the investigations of Binz and Conzen, it appears that the physiological effect of bibeeria is identical with that of quinia. Both are equally effective in arresting or preventing putrefaction and fermentation, as well as in destroying the white blood-corpuscles. Flückiger, a few years ago, found that three hitherto dissociated alkaloids, namely, bebeerine, buxine, and pelosine, were probably identical. The antipyretic effects of *buxine* have, indeed, already been pointed out by various Italian physicians, chiefly Dr. Vitali, of Malegnano. *Pelosine* is an alkaloid contained in *Cissampelos Pareiræ*, and *Chondodendron tomentosum*; its therapeutic properties, however, are as yet undetermined. Supposing, then, that those three alkaloids are identical, it would be an easy matter to supply large quantities of the alkaloid, by preparing it from some species of Buxus, perhaps *B. sempervirens*, although the presence of various other, and some of them highly poisonous principles, would make its preparation, except on the large scale, somewhat troublesome. Messrs. T. & H. Smith, of London and Edinburgh, have informed Dr. Husemann that about 50 tons, or about 50,000 kilos of bebeeru or greenheart bark, are annually brought to the London market,* and that a large demand would undoubtedly produce a more abundant supply.—*Pharm. Handelsblatt*, Nos. 95, 96.

* See *U. S. Disp.*, 14th ed., p. 1102.

A Convenient Filter-Stand.

A CORRESPONDENT sends us a description of a convenient filter-stand which he has for some time had in his laboratory, and finds to be practically useful. A ⅜-inch iron rod four feet in length is bent at its middle to a right angle. One end of the rod is made into a ring to receive the funnel, care being taken to have the ring at a sufficient distance from the angle to accommodate the receiving vessel. A thread is cut on about a foot of the other end of the rod, and furnished with two nuts and a couple of washers. Now, choosing a portion of the counter where filtration is to be done, a hole is to be bored through it large enough to admit the passage of the rod.

The latter is then fixed in place by adjusting a nut above and another below the counter, a washer being interposed between each nut and the wood. It is easy to fix the rod at any convenient height or remove it altogether. A half-dozen of these stands cost our correspondent only a couple of dollars.

Lead-Poisoning.

THE *Boston Medical and Surgical Journal* publishes a graduation thesis by M. H. Richardson, M.D., of exceptional excellence, on the above subject, based upon personal observations in the white-lead works located at Salem, Massachusetts. Following a description of the process of manufacturing lead carbonate, a synopsis is given of the condition of the seventy-five workmen examined, which presents some interesting evidence of the varying susceptibilities of different individuals to the action of lead.

"The general appearance of the men," he says, "is not good. The faces are sallow and more or less worn. The sclerotic coat is yellowish. Their motions are far from energetic, and in some cases eccentric and unsteady. One would say immediately, I think, that the general appearance is much below that of the average workman.

(1.) The first man examined has worked in all parts of the mill for thirteen years. His only trouble is rheumatism. The gums show a distinct blue line along the border.

(2.) After seven years in the corroding-rooms, has no symptoms excepting the blue line.

* Flückiger & Hanbury (*Pharmacographia*, p. 482) state that "the supplies are very uncertain, and the drug is scarcely to be found in the market."

(3.) After grinding lead with oil, has only the blue line.

(4.) After working in all parts of the mill for six months, has had violent colic and great constipation. Blue line marked.

(5.) Reports only blue line after four years' work.

(6.) The machinist, after repairing in the drying-room a few hours a day for ten days, was affected with colic and constipation. Has great habitual constipation. Blue line very marked.

(7.) After seven years, only blue line.

(8.) After twelve years, has only blue line and fungous, bleeding gums, with occasional colic and obstinate constipation.

(9.) After six years in corroding-room, has only blue line.

(10.) Has worked in all parts of the mill for fifteen years without showing a trace of blue line, or any other symptom whatever. Very neat.

(11.) After three years, only blue line.

(12.) After four years, nothing.

(13.) Blue line, rheumatic pains, and fainting fits. This was a remarkably neat man.

(14.) After four years, no trace of poisoning.

(15.) After four years, entirely used up. Had to leave all work.

(16.) After one year's work, completely crippled, having paralysis of the extensors, aphonia, and general debility.

(17.) The carpenter, after repairing ten days in the drying-room, had severe colic, obstinate constipation, and persistent blue line.

(18–75.) Of the rest of the seventy-five men examined, all had a distinct blue line about the gums, and, with one or two exceptions, habitual constipation. There was nothing further than this to suggest the presence of lead.

"In addition to the above cases, three of the former employees had suffered with difficulty in speaking, three with amaurosis, several with cerebral troubles, and many with paralysis. The superintendent had observed that the most frequent complaint had been of swollen joints and aching bones. In the numerous cases of paralysis which he has seen during many years' service at these works, he has noticed that the wrists have become much swollen before paralysis of the extensors. A curious tradition exists among them that they cannot drink alcoholic liquors and keep up with their work like laboring men in other manufactories. Several cases were told me of men who quickly succumbed to the influence of the lead after beginning the use of strong stimulants. The length of time that one can work surrounded by these poisonous exhalations is subject to immense variations. Some men have become paralyzed in less than a month; others exist for years."

As an illustration of this fact and as a typical case of chronic lead-poisoning, the writer narrates the case, which is famous among Salem lead-workers, of a man who for twenty-five years has been in the worst position the mill affords—that of shovelling the dry, powdered lead—and has seen forty-seven men leave the mill to die from the direct effects of the poison. The man was covered with the white lead, and was filthy in appearance, but symptoms of lead-poisoning had only come on two years before, at which time he had sold the cows he had formerly owned, and had given up the habit of drinking an abundance of milk. Later in the paper, the influence of the use of milk as a beverage in preventing poisoning in French lead-works is quoted, and it is stated that in this instance, from 1868 to 1871, no cases of colic occurred following the introduction of this practice in the former year.

In concluding the paper, the writer says, in regard to *prognosis:* "This would be favorable in all these professional cases could the workmen be removed from the mills. They obstinately refuse to make the slightest effort to avoid danger. Mouth-sponges are constantly on hand, sulphuric acid lemonade is continually urged upon them. Fine bath-rooms, fitted up nine years since by the Salem company, have been turned into store-rooms for want of patronage."

Dr. Richardson reports some experiments made by him to determine if the air of freshly-painted rooms could contain lead, as has been asserted, and a decidedly negative result was obtained.

The Preparation of Suppositories containing Extracts.

Mr. Paul Petit proposes to facilitate the admixture of extracts to butter of cacao, in the preparation of suppositories, by the addition of a substance which is soluble in water as well as in fats, namely soap. He heats the extract in a capsule with a very small quantity of water, and adds a quantity of soap, containing an *animal oil*, equal to that of the extract taken. The mixture is then evaporated to a syrupy consistence. The butter of cacao being melted to just the point of fusion, the other mass is added, and the whole is assiduously stirred until it shows signs of solidification. It is then rapidly cast into moulds. With a little practice and care, very handsome and thoroughly homogeneous suppositories, in which the eye can detect no unmixed specks of extract, may thus be prepared.—*La Ruche Pharm.*, 1877, 67.

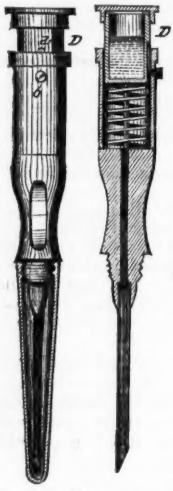
Influence of Wine Bottles on Wine.

It has recently been determined that wine may be injured through the glass of the bottles in which it is contained being too alkaline. According to analyses given by the *Revue Industrielle*, glass for wine bottles should yield, per 100 parts: silex 58.4, potash or soda 11.7, lime 18.6; clay and oxide of iron 11, other ingredients 0.3. Glass in bad bottles has been found to contain silex 52.4, potash or soda 4.4, lime 32.1, clay and iron 11.1. It seems that the wine suffers principally from excess of lime. Thus, in glass composed of silex 45, soda 15, lime 30, and clay 15, for example, the wine became thick and lost its aroma. The best

bottle-glass contains from 18 to 20 parts of lime, and 59 to 60 parts of silex; the worst, 50 to 52 of silex, and 25 to 30 of lime.—*Scientific Amer.*

Vaccinating Instrument.

IN this instrument, patented July 17th, by F. S. Brinkerhoff, of Auburn, N. Y. (Patent No. 193,067), a small trochar or hollow needle serves to puncture the skin, when pressure on the head of the instrument causes a little stylet to protrude, which, being charged with vaccine lymph, accomplishes the inoculation of the subject of the operation. The sliding receptacle D serves to hold a supply of lymph, and a screw cap protects the needle when the instrument is not in use.



Arsenic and Antimony in Vulcanized Rubber.

AN article contained in No. 17 of the *Répertoire de Pharmacie*, by Mr. E. Filhol, again draws attention to the fact that much of the vulcanized rubber of the market—at least that made in Europe—contains arsenic, which may be readily extracted by means of hydrochloric acid. It may not be generally known that the golden sulphide of *antimony* is largely consumed for coloring vulcanized rubber. This is prepared specially for this purpose, both of a red and of an orange color, and preserves its tint even at a high temperature. Some time ago an inquiry was instituted whether dental vulcanite, colored by vermilion, was poisonous; and the result was, that it was declared innocuous.* It now remains to be seen whether any *dental vulcanite is colored by antimony sulphide*, and what constitutional effects it produces.

On Oil of Turpentine.

THE variation in the statements of the different pharmacopœias regarding the solubility, boiling-point, and other properties of rectified oil of turpentine, induced Mr. K. Ledermann and Dr. R. Godeffroy, of Vienna, to subject the various kinds of the commercial pure oil to a careful examination. The results obtained with the American oil were as follows: It is a clear liquid of almost entirely neutral reaction; its spec. grav. is 0.8619, and it turns the plane of polarization to the right. One part of it requires for solution 56 parts of 70 per cent. alcohol, 20 parts of 80 per cent., or 12 parts of 85 per cent., or 5 parts of 90 per cent., or 3 parts of 92 per cent., or 2 parts of 95 per cent. alcohol.—*Zeit. d. Oester. Apoth. Ver.*

* See NEW REMEDIES for August last, p. 233.

A New Falsification of Sulphate of Quinia.

DR. JAILLARD has discovered a new and altogether extraordinary sophistication of quinia sulphate, which occurs in the French market, and bears the labels of Pelletier, Delondre and Levaillant, so well imitated as to be undistinguishable from the genuine. The contents of the bottles present the usual appearance of quinia sulphate, but the chemical behavior is entirely different. The salt is very soluble in water, gives only a small precipitate with barium chloride, and strikes a purple color with ferric salts. It contains sufficient quinia to give the thalleioquin reaction and to show fluorescence. The adulterant is supposed to be potassium salicylate, crystallized from alcohol to give it the silky appearance of quinia sulphate.—*Jour. de Pharm. d'Anv.*, 1877, 207.

A New White Paint.

NATIVE barytes, or barium sulphate, is mixed with pulverized stone coal and tar and exposed to an intense heat, so as to convert it into barium sulphide. The latter, being soluble, can be dissolved out, and to the clear solution is added a corresponding quantity of zinc chloride in solution, when zinc sulphide will be precipitated, while barium chloride remains in solution. To the solution of barium chloride is added white vitriol (zinc sulphate), when a precipitate of barium sulphate will be formed and zinc chloride left in solution, which latter can be filtered and again employed to precipitate the barium sulphide.

The two precipitates obtained as above, namely, zinc sulphide and barium sulphate, are well washed, mixed, dried, heated to a cherry red, then thrown into cold water, and finally ground in water and dried. The white pigment thus obtained covers well, and is well suited to mix with oil as a substitute for lead, especially where sulphur compounds exist or may be generated.

Detection of Water in Alcohol.

AN exceedingly delicate reaction to ascertain the anhydrous character of absolute alcohol is given by Prof. Claus. If to a trace of anthrachinon* (not more than 0.001 gm.), and some sodium amalgam contained in a test-tube, an excess of perfectly anhydrous absolute alcohol is added, the formation of a dark green zone will be observed after a few minutes, at the point of contact of the amalgam and alcohol. This zone, on gentle shaking, imparts a magnificent green color to the whole liquid, but on brisk shaking, in presence of air, the color disappears. This may be repeated as long as there is any amalgam left. On the other hand, if the alcohol contains even the minutest trace of water, the liquid under the same circumstances assumes a red color, and the coloration may be repeated the oftener, the more water the alcohol contained.—*Ber. d. Deutsch Chem. Ges.*

* Anthrachinon, or oxanthracene, $C_{14}H_8O_2$, is produced by the oxidation of anthracene, $C_{14}H_{10}$, by means of nitric or chromic acid.

RECENT PAPERS.

American Journal of Pharmacy.

September. N. ROSENWASSER: "On Colchicum Seed." [It having been asserted that colchicum seeds could be exhausted without being ground, the author macerated 5,000 grains of unbroken seeds with dilute alcohol, in a warm place for ten days, washing them afterwards carefully with more menstruum. The resulting tincture yielded only five grains of colchicia, while the macerated seeds, after grinding and further exhaustion, yielded eleven grains more. It was found, after several trials, that by macerating the unbroken seeds, less than one-third of the total amount of colchicia present is extracted.]

ALPH. HERRERA: "On a New Process for the Preparation of Extracts without Heat." [The author proposes to use [illegible] for the concentration of vegetable juices, or watery liquid extracts. He applies a freezing mixture in an apparatus resembling that used for making ice-cream (sorbétière), whereby the excess of water is converted into ice. The remaining dense extract, which is so well preserved that even the albumen is retained unaltered, after being separated from the ice, is exposed in thin layers to warm air or the heat of the sun, until of the proper consistence.]

H. M. WILDER: "Practical Notes." (See p. 317.)

Pharmaceutical Journal and Transactions. Nos. 374–378.

W. DYMOCK: "Notes on Indian Drugs." [*Sterculia urens;* local name Karai, Pandrook, Kavalee. The gum is called Karai gond, forms a thick jelly with water, and is used generally as a substitute for tragacanth.—*Hyoscyamus niger;* local, Khorasanee Ajwan. Cultivated for medicinal purposes in the government gardens at Hewra, near Poonah.—*Poa cynosurioides;* local name in Goa, Gramina. The root is used as a substitute for dog-grass by the Portuguese at Goa.—*Aplotaxis costus;* local, Puplate (in Bombay); Koot or Putchake (elsewhere). The root is extensively used as a perfume, and to protect clothes from moths; also as an aphrodisiac and vermifuge.—*Tephrosia purpurea;* local, Sarpankha. The whole plant, a common weed, is a bitter astringent.—*Lodicea Seychellarum;* local, Daryai, Naril. The kernel of the sea-cocoanut is in great repute among the Arabs and Indians as a strengthening medicine.]

ED. W. DAVY: "A new Method of Detecting Alcohol in Essential Oils." (See next number.)

D. B. DOTT: "Lactic Acid in Willow Bark." [A watery infusion of willow-bark is mixed with lime and boiled; the solution is evaporated and the residue exhausted with alcohol. The alcoholic solution, on evaporation, deposits the salicin in crystals, and the lime salt of the acid remains in solution. This is evaporated to dryness, redissolved in water, and oxalic acid, not in excess, is added. The filtrate is concentrated and extracted with ether, which removes the acid. This was recognized as *lactic acid.*

E. M. HOLMES: "Note on Rheum Officinale." (See p. 294.)

The Analyst. Nos. 16, 17.

DR. MUTER: "Estimation of Oleine in Fats."

W. E. PORTER: "The Examination of Hops." [The author finds that the resin is the only principle which is useful for brewing purposes, as it does not render beer turbid. The oil of hops the author finds to be readily converted into resin, both by age and by attempting its distillation. It has a sort of pennyroyal odor when fresh, but as it resinifies it approaches the odor of valerianic acid. The amount of *resin* in hops is the criterion of its value.]

Répertoire de Pharmacie. Nos. 15–17.

M. LATOUR: "The Bromhydrates of Cinchonia and Morphia." [*Bromhydrate of Cinchonia* (*neutral*), $C_{20}H_{24}N_2O$, $2HBr=470$, is soluble in water at 15° C., in the proportion of 70 parts of the salt to 100 of water. 100 parts of alcohol of 90 per cent. dissolve 28.5 parts. It is best prepared by double decomposition between barium bromide and cinchonia sulphate.—*Basic Bromhydrate of Cinchonia,* $C_{20}H_{24}N_2O$, HBr, $H_2O=407$. 1 part is soluble in 33.5 parts of water at 15° C., in 19 parts of water at at 100° C.; and in 3.63 parts of alcohol at 15° C.—*Bromhydrate of Morphia* may be prepared by double decomposition between sulphate of morphia and potassium bromide. It contains $C_{17}H_{19}NO_3$, HBr, $3H_2O=420$. 1 part is soluble in 25 parts of water at 15° C.]

M. CAILLETET: "Determination of Citric and Tartaric Acids." (See next number.)

L'Union Pharmaceutique.

June. DANNECY: "Canada Balsam an Excipient for Pill-Masses." (See next number.)

E. DE VRIJ: "Extraction of Quinamia from Red Bark." (See page 300.)

IS. PIERRE: "Preparation of Alcohol from the Sugar contained in Beet-leaves." [It being known that the leaves of beets elaborate the sugar, it occurred to the author to utilize the remainder of the sugar contained in them for the manufacture of alcohol. He obtained from 158 kilos of fresh leaves, by expression, 34 to 35 litres of sap, which, on fermentation, yielded 275 c.c. (9½ fl. oz.) of 68% alcohol, and 135 c.c. of 8% alcohol.]

No. 8. MR. SÉE: "On Salicylates." [Among other salicylates, the author proposes the *salicylate of lithium,* which is probably more effective than the corresponding sodium salt, as it contains a relatively larger quantity of salicylic acid: 6 parts of the salt correspond to 5 parts of the acid.]

Journal de Pharmacie d'Anvers.

March. DEPAIRE: "Estimation of Urea." (See p. 292.)

A. BITERYST: "Oxalate of Iron." [Best made by dissolving 200 gms. of pure ferrous sulphate in 600 gms. of distilled water, to which a few drops of sulphuric acid have been added; then dissolving 180 gms. of purified oxalic acid in 1,800 gms. of distilled water, pouring the latter solution in the former, collecting the precipitate, washing and drying. Amount of ferrous oxalate produced, 125–130 gms.]

July. FR. CULOT: "Examination of Six Samples of Bismuth Subnitrate." [The author found all the samples examined to be contaminated with an ammoniacal compound, two of them adulterated with 18.2 per cent. and 14.5 per cent. respectively of calcium phosphate, and yielding 87, 68.9, 76, 69.5, 85 and 85 per cent. of bismuth oxide.]

G. BRUYLANTS: "Researches on Oil of Tansy." [The author's results are: Oil of tansy contains 1 per cent. of a hydrocarbon $C_{10}H_{16}$; a mixture of about 4.5 per cent. of an aldehyde isomeric with camphor, and having the formula $C_{10}H_{18}O$, with 1.5 per cent. of an alcohol of the composition $C_{10}H_{18}O$; and a mixture of two resins, one acid, the other neutral.]

J. ANNEESENS: "On the Preservation of Powdered Ergot." [Recommending, in place of all other methods, to preserve the powdered ergot—or any other powder or drug liable to spoil—in "*desiccating bottles,*" such as proposed by Mr. Cornélis of Antwerp, which are filled to two-thirds of their height with caustic lime. The success of this method is so decided, according to the author, that it throws all others into the shade.]

Archiv der Pharmacie.

May. E. JOHANSON: "Estimation of Cinchona Alkaloids." [The author has examined the process proposed by J. C. B. Moens, for separating all the alkaloids from cinchona bark, and comes to the conclusion that it is liable to so many errors as to become practically useless.]

July. ERNST SCHMIDT: "On some of the Constituents of Cubebs." [The author has repeated his analyses of the stearopten found in cubebs, and finds his former statements

to be correct. The composition of this cubeb-camphor is $C_{15}H_{26}O$, or rather $C_{15}H_{24}$, H_2O, it being a hydrate of the essential oil of cubebs.]

SAME: "On Bromoform." [There are two different specific gravities given in text-books: one by Loewig, namely, 2.130; and the other by Cahours, 2.900 at 12° C. The author has determined the spec. grav. of chemically pure bromoform, boiling at 149–150° C. (about 301° F.), and finds it to be 2.775 at 14.5° C.]

E. HOLDERMANN: "On the Presence of Ammonia in Tartrates." [Reporting the presence of ammonia in minute quantities in tartrates, which are sold as "pure" in the market. Although not therapeutically objectionable, the ammonia sensibly interferes with the use of the salt in Fehling's solution.]

TH. PUSH: "Citrate of Sodium and Potassium." (See next number.)

De Farmaceut. 41–45.

HERMAN VAN GELDER: "On Tannin in Gentian Root." [The author refers, although not correctly, to the late discussions on the presence or absence of tannin in gentian root. Prof. Maisch published a paper in *Am. Journ. of Pharm.*, 1876, 117, 188, etc., in which he disproves its presence. J. Ville has lately examined the roots of *Gentiana Burseri* and *G. lutea*, and has arrived at the following conclusions: 1. Gentian root contains a constituent analogous to that found in other parts of plants which belong to a *class* of substances comprised under the general name of tannins (looistof, gerbstoff). 2. The bitter constituent, gentiopicrin, does not belong to this class. 3. The *tannin* of gentian is nothing else than the substance hitherto known as *gentianin*.]

Schweizerische Wochenschrift f. Pharmacie. Nos. 28–30.

SCHACHT: "On the Artificial Oil of Mustard of Commerce." [At a meeting of Berlin Apothecaries' Society, in May, Dr. Schacht controverts the statements made by E. Mylius (in *Arch. d. Pharm.*; see NEW REM., vi., 175), that the commercial artificial oil of mustard is impure, and ascribes the results obtained by the latter to the fact that the oils examined by him did *not* represent the average quality obtainable in the market. Schacht found an oil of mustard, prepared by Kahlbaum, to have the spec. gr. 1.018, to boil at 147–148° C., and to be free from hydrocyanic acid or carbon disulphide.]

Pharmaceutische Zeitung. Nos. 57–70.

DRAGENDORFF AND MARQUIS: "On the Alkaloids of Delphinium" (from *Arch. f. exp. Path. u. Pharm.*). [The seeds of *Delphinium Staphisagria*, contain no less than 4 alkaloids: 1. *Delphinin*, $C_{22}H_{35}NO_6$, well crystallizable. 2. *Staphisagrin*, $C_{22}H_{33}NO_5$. 3. *Delphinoidin*. 4. *Delphisin*, which is only obtainable from quite fresh seeds.]

SAME: "On the Active Principle of Cannabis Indica." [Commenting on the statement of Preobraschensky, that *Cannabis Indica* contained *nicotia*, the referee points out, that this will probably be found to be a mistake, as the therapeutic effects of cannabis are so totally different from those of tobacco. He suspects, in spite of Mr. Pr.'s assertions to the contrary, some contamination, either with tobacco, or with some other plant yielding a volatile alkaloid.]

TH. HUSEMANN: "On Indian or Javanese Rhubarb." (See p. 293.)

Archiv der Pharmacie.

August. H. WERNER: "On Rheum palmatum." [It appears highly probable that the officinal rhubarb is derived from at least two species of *Rheum*, namely, *palmatum*, L., and *officinale*, Baillon, although there may be still other species which furnish it. It certainly was *Rheum palmatum*, and not *R. officinale*, which Col. Przewalski found growing in Northern Thibet between 36° and 40° N. Lat. Doubts as to the derivation of rhubarb from the latter species have lately been also raised by Mr. Holmes. See p. 294.]

Pharmaceutische Centralhalle. Nos. 29–34.

R. BÖTTGER: "Preparation of Platinum Black." (See next number.)

H. HAGER: "On the Statement that Sugar is a Normal Constituent of Urine." [Dr. Pavy some time ago published an article—see NEW REM., August, 1877, p. 239—in which he asserts that glucose is invariably a normal constituent of urine. Dr. Hager thinks that this statement should be modified, so as to refer exclusively to the urine of aged persons, where he also has found it; while it appears to be absent in the urine of healthy young persons.]

Zeitschrift d. Oesterreich. Apoth.-Vereins. Nos. 22–25.

K. LEDERMANN and R. GODEFFROY: "On Oil of Turpentine and Oil of Juniper." [From a lengthy article on the various kinds of these oils found in commerce, we select an account of the solubility of the American Oil of Turpentine. See p. 303].

British Medical Journal.

Sept. 15. C. E. PAYET: "Atropia as a Remedy for Opium-Poisoning." [Reports an experience with the remedy, and remarks the failure of atropia to remove the stupor though manifesting its full influence on the iris. He expresses his belief that it is useless as an antidote, after the stupor has become so profound as to prevent the patient standing.]

A. WAHLTUCH: "Cases of Nervous Asthma Treated with Arsenical Inhalations and Galvanization of the Pneumogastric Nerves." [Reports seven cases, five of which were permanently cured, and two were benefited. The following were the arsenical preparations used: Arseniate of soda ($\frac{1}{6}$ to $\frac{1}{2}$ gr.); arseniate of potassa (℥ ss. to ℥ i); arseniate of ammonia ($\frac{1}{4}$ to $\frac{1}{2}$ gr.).]

Sept. 22. ARTHUR W. BATEMAN: "Boracic Acid Ointment." [Gives his endorsement of the value of the ointment when used as a dressing for wounds. Its smooth, waxy consistency prevents its adhering to the edges of the wound or the intermediate clot, and when wounds do not require poulticing it is a better application, he thinks, than a water-dressing. An additional advantage over the latter is the lessened frequency with which it needs to be changed.]

Boston Medical and Surgical Journal.

Sept. 6. P. E. BISHOP: "Extraordinary Tolerance of a Poisonous Dose of Chloral Hydrate." [165 grains were taken, causing profound sleep, accompanied by profuse diaphoresis, a temperature of 99° Fahr., and lasting 36 hours. The patient, on awakening, was entirely relieved of the delirium tremens from alcohol, which he was suffering from when the dose was taken.]

Nitrate of Furfurine is said to have been discovered by the late Professor Fownes. Its composition is expressed by the symbol $C_{20}H_{12}N_2O_6$. It is slightly soluble in cold, but more soluble in boiling water. When wheat-bran is acted upon by diluted sulphuric acid in a chamber through which a current of steam is passed, a volatile oily body is produced called furfurol. Furfurol in contact with solution of ammonia becomes converted into furfuramide. Furfuramide acted upon by caustic potash is slowly dissolved, and the solution, on cooling, deposits small, white, needle-like crystals; these crystals are furfurine. Furfurine is a powerful organic base, and forms with acids beautifully crystallizable salts.

The medicinal properties of this substance are uncertain, but it has been employed in doses of two to five grains, in neuralgia. It has been used also, in the form of a nitrate, which is presumed to have tonic properties.—HENRY BROWN in the *British Medical Journal*.

Dr. Göppert, who has been attached to the University of Breslau for fifty years, as teacher and professor of materia medica and botany, was publicly presented on July 30th, with an elaborately decorated album containing five hundred and fifty-four photographic portraits of his pupils, colleagues, and friends.

ORIGINAL COMMUNICATIONS.

CONTRIBUTIONS FROM THE SCHOOL OF PHARMACY, UNIVERSITY OF MICHIGAN.

4. Analysis of Twenty Samples of White Lead.

BY ALBERT A. HALLOCK, PH.C.

TEN samples were dry, and ten were in oil. That sold in the dry state was much purer than the oil paint. The adulterants found were calcium carbonate (chalk), barium carbonate (Witherite), barium sulphate (barytes, or heavy spar), and traces of silica and extraneous matter. Several of the samples contained zinc oxide; but as zinc white is as durable and valuable a paint as white lead, it was not called an adulteration. For places where sulphuretted gases are evolved, zinc paints are preferable, because they do not blacken as lead paints do. The other adulterations are very injurious, causing paints to "chalk off" after a few months' exposure.

The following were the methods of analysis:

One gramme of the dry paint was boiled with dilute nitric acid, and any insoluble residue (barium sulphate or silica) removed by filtration. This insoluble residue was afterwards fused with sodium carbonate, and estimated quantitatively.

The filtrate was concentrated to expel excess of nitric acid, diluted with water, and treated with washed hydrosulphuric acid gas to precipitate lead. This precipitate was dissolved in nitric acid and the lead estimated as sulphate. The filtrate, after removal of lead sulphide, was made alkaline with ammonia, and again treated with hydrosulphuric acid gas. If zinc was present, a white precipitate of zinc sulphide was formed. This was dissolved in dilute hydrochloric acid, the zinc precipitated by sodium carbonate, the precipitate well washed, dried, ignited, and the zinc weighed as oxide. The filtrate, after removal of zinc, was treated for barium and calcium. The barium was weighed as sulphate, and the calcium as carbonate.

The same methods were employed in analyzing paints in oils, except that oils were first removed. The following was found, after trial of several other methods, to be the best. To three grammes of the moist paint, in a large test-tube, add a mixture of one volume ordinary ether and two volumes of alcohol. Agitate briskly several times, allow the paint to settle, and decant the liquid into an evaporating dish. Repeat until all the oil is removed. This may be determined by adding water to the paint in the test-tube and agitating. If oil is present, the paint sticks to the sides of the tube; if not, it settles easily.

The white lead, after removal of the oil, was well dried, and one gramme taken for analysis.

Owing to the variable and uncertain composition of lead carbonate, the results have all been stated in per cent. of normal lead carbonate ($PbCO_3$). The following are the results:

Analysis of Ten Samples of Dry White Lead.

No.	Lead Carbonate.	Zinc Oxide.	Calcium Carb.	Barium Carb.	Barium Sulph.	Silica, etc.
1	99.5					
2	86.0		11.3		1.5	.3
3	99.6					.3
4	88.8		2.		8.8	.2
5	89.1				9.9	.4
6	79.0			19.8		1.0
7	97.1	1.70			.5	.3
8	47.2		4.4		39.6	
9	30.2	36.3	7.8	26.1		.3
10	50.0		.4	8.2	39.6	.4

Analysis of Ten Samples of White Lead Ground in Oil.

No.	Lead Carbonate.	Zinc Oxide.	Calcium Carb.	Barium Carb.	Barium Sulph.	Silica, etc.
1	39.4	16.			28.0	
2	50.1	19.	20.		5.2	.5
3	31.2	30.3			29.1	.4
4	99 4					.3
5	98.6				1.3	
6	99.2					
7		69.9		2.0	18.0	
8		31.0	26.8		35.6	
9	20.4	49.6		8.0	20.0	.7
10	99.5					

THE MEDICINAL CHLORINE-DERIVATIVES OF ALCOHOL.*

AMONG the chemicals which have been adopted into the list of medical agents, the chlorine-derivatives of alcohol occupy a very prominent place. Starting from the single chloroform, which came into use about 1831, their number has since then steadily increased, until there are now no less than about ten such compounds. Many of these are so closely allied in properties, that a sharp determination of boiling-point and specific gravity is necessary to distinguish them. In determining the boiling-point, it may be incidentally remarked, the thermometer must not dip into the liquid, but must be wholly immersed in the vapor of the boiling liquid, and the latter must be carefully distilled to dryness.

Since nearly all these bodies are at present obtained, as by-products in the preparation of chloral hydrate, we shall first describe the manufacture of the latter, as carried on at a large scale.

Chloral Hydrate. Into a series of 30 to 40 large glass carboys, each of which contains 108 to 144 pounds of 98 per cent. alcohol, a current of chlorine gas, washed and dried by sulphuric acid, is passed without intermission for twelve to fourteen days. In the beginning of the operation the action is sufficiently energetic to necessitate the cooling of the carboys, while towards the end they must be warmed to 60 and 75° C. (140 to 167° F.). As soon as the liquid in the carboys has reached a specific gravity of 1.400, the chlorination is interrupted, the chlorinated alcohol is transferred to copper stills lined with lead, and carefully boiled with an equal weight of sulphuric acid. This causes the elimination of large quantities of *ethyl chloride* gas (hydrochloric ether, C_2H_5Cl), hydrochloric acid, and a whole series of by-products, which are condensed. After a while, chloral passes over, which boils at 94° C. (201.2° F.). A rise of the thermometer to 100° C. (212° F.), indicates that all chloral has passed over, and the distillation is stopped. The distilled chloral, a colorless liquid, is neutralized with chalk, again distilled, the distillate brought into contact with just sufficient water to form the solid hydrate, and rapidly cooled off. The mass thereby congeals, and forms the product known as "chloral hydrate in crusts." More recently this is being displaced by chloral hydrate crystallized from boiling chloroform, which forms brilliant pellucid rhomboëdra, and is much more capable of resisting change by exposure to air, than the ordinary kind.

Soon after the discovery of chloral, a number of works, on the largest scale, were erected for its preparation; but competition soon lowered the market price of the product to such a degree that it became a question of life and existence with some manufacturers to find use for the large quantity of apparent useless by-products obtained. In this way Kraemer, of Berlin, who was supplied with material by Schering's factory, discovered in these accompanying products large quantities of *Monochlorinated ethyl chloride*, or *Dichlorethane* ($C_2H_4Cl_2$, æthyliden-chloride), and afterwards, together with Pinner, he discovered a new chloral,

* From a paper of J. Biel, in *Pharm. Zeit. f. Russl.*, 1877, No. 11; and a paper in *L'Union Pharm.*, 1877, 181, with additions by Ed. N. R.

which was named *croton-chloral*, and which was examined therapeutically by Liebreich, who proved it to be a valuable agent. Kraemer also believed to have recognized in the mixture small quantities of *ethene chloride* ($C_2H_4Cl_2$, Dutch liquid); but this was disproved by Geuther, Stapf, and Staedel.

To arrive at a clear understanding of the origin of these secondary products, it is necessary to study the chemical reactions occurring during the generation of chloral:

Chlorine acting upon anhydrous alcohol produces in the first place *aldehyde*:

$$C_2H_6O + Cl_2 = C_2H_4O + 2\,HCl$$

alcohol + chlorine = *aldehyde* + hydrochloric acid.

This, with more alcohol, forms *acetal*:

$$C_2H_4O + 2C_2H_6O = C_2H_4(C_2H_5O)_2 + H_2O$$

aldehyde + alcohol = *acetal* + water,

which, by substitution of chlorine for hydrogen, forms *trichloracetal*:

$$C_2H_4(C_2H_5O)_2 + Cl_6 = C_2HCl_3(C_2H_5O)_2 + 3HCl$$

acetal chlorine = *trichloracetal* + hydrochloric acid.

This yields, with the generated hydrochloric acid, *chloral alcoholate* and *ethyl chloride*:

$$C_2HCl_3(C_2H_5O)_2 + HCl = C_2HCl_3(C_2H_6O_2) + C_2H_5Cl$$

trichloracetal + hydrochloric acid = *chloral alcoholate* + *ethyl chloride*.

Most of the latter is decomposed with some of the still present alcohol to *ether*:

$$C_2H_5Cl + C_2H_6O_2 = (C_2H_5)_2O + HCl$$

ethyl chloride + alcohol = *ether* + hydrochloric acid,

which is converted by fresh chlorine into mono-, bi-, tri-, and finally, *tetrachlorinated* (*ethylic*) *ether*:

$$(C_2H_5)_2O \text{ or } C_2H_5.O.C_2H_5 + 4Cl_2 = C_4H_6Cl_4O \text{ or } C_2H_5.O.C_2HCl_4 + 4\,HCl$$

ether + chlorine = *tetrachlorinated ether* + hydrochloric acid.

During the subsequent distillation with concentrated sulphuric acid, the generated chloral alcoholate splits into *chloral* and *ethyl-sulphuric acid*:

$$C_2HCl_3(C_2H_6O_2) + H_2SO_4 = C_2HCl_3O + H_2O + (C_2H_5)HSO_4$$

chloral alcoholate + sulphuric acid = *chloral* + water + *ethyl-sulphuric acid*,

and the tetrachlorinated ether undergoes the same change:

$$C_2H_5.O.C_2HCl_4 + H_2SO_4 = C_2HCl_3O + HCl + (C_2H_5)HSO_4$$

tetrachlorinated ether + sulphuric acid = *chloral* + hydrochloric acid + *ethyl-sulphuric acid*,

and the ethyl-sulphuric reacts with muriatic acid to form *sulphuric acid* and *ethyl chloride*:

$$(C_2H_5)HSO_4 + HCl = H_2SO_4 + C_2H_5Cl$$

ethyl-sulphuric acid + hydrochloric acid = sulphuric acid + *ethyl chloride*.

On the other hand, if chlorine continues to act upon tetrachlorinated ether, there is produced *pentachlorinated ether*, $C_2H_5.O.C_2Cl_5$, which has a specific gravity of 1.650, and *does not yield chloral*, when treated with sulphuric acid. This is the reason why, in the manufacture of chloral, the current of chlorine gas is interrupted, when the liquid in the carboys has reached a specific gravity of 1.400.

From the *ethyl chloride* generated during the process, chlorine produces the following substitution-products:

C_2H_5Cl ethyl chloride, or chlorethane);
$C_2H_4Cl_2$ di-chlorethane (æthyliden-chloride);
$C_2H_3Cl_3$ tri-chlorethane;
$C_2H_2Cl_4$ tetra-chlorethane;
C_2HCl_5 penta-chlorethane;
C_2Cl_6 carbon hexachloride, or rather carbon trichloride, a crystalline substance identical with that produced by the action of chlorine gas upon Dutch liquid.

A very variable mixture of the middle members of this series is at present an article of commerce under the name *Liquor anæstheticus*. Another similar mixture, containing the lower members, is the *Aether anæstheticus Aranii*, boiling between 64° and 100° C. (148–212° F.); and the *Aether anæstheticus Wiggers*, which contains the higher chlorides, and boils between 100° and 140° C. (212–284° F.)

As regards the other chloral, *croton-chloral*, or, as it is now more correctly termed, *butyl-chloral*, the investigations have not yet led to such detailed results. We are, however, certain that it is produced by the chlorination of two associated molecules of aldehyde. As croton-chloral its formula would be $C_4H_3Cl_3O$; but as butyl-chloral its formula is $C_4H_5Cl_3O$.*

Croton-chloral is distinguished from the ordinary chloral, first, by its melting-point, which is at 78° C. (173° F.), while common chloral melts at 56° C. (133° F.); and second, by the products of its decomposition. *Ethyl-chloral*, when brought in contact with alkalies, splits into *chloroform* and *formic acid*:

$$C_2HCl_3O + KHO = CHCl_3 + KCHO_2$$

ethyl-chloral + potassa = *chloroform* + potassium *formate*,

while *croton-chloral*, under the same conditions, splits into *dichlorallylene* and *formic acid*:

$$C_4H_3Cl_3O + 2KHO = C_3H_3Cl_2 + KCl + KCHO + H_2O$$

croton-chloral + potassa = *dichlorallylene* + potassium chloride + potassium *formate* + water.

(To be continued.)

* The name *croton*-chloral is owing to the relationship of this compound to *crotonic* acid found in *Croton Tiglium*. Crotonic acid, isomeric with methacrylic acid, is $C_4H_6O_2$; croton-aldehyde, C_4H_6O; croton-chloral $C_4H_3Cl_3O$. Starting from *butyric acid*, $C_4H_8O_2$, we have butyl-aldehyde C_4H_8O, and butyl-chloral, $C_4H_5Cl_3O$.

TANNIN AS A DEODORIZER OF IODOFORM.

EDITORS OF NEW REMEDIES:

Having accidentally discovered that *tannin* will deodorize *iodoform*, I take pleasure in making known this fact to you, and through you, to the profession.

I use it in equal parts, as an application to chancroids and to old offensive ulcers.

Yours, etc.,

J. R. COLE, A.M., M.D.,
Resident Physician, Hot Springs, Ark.

A New Mucilage.—The *Journal de Pharmacie* states that if, to a strong solution of gum-arabic, measuring 8½ fluid ounces, a solution of 30 grains of sulphate of aluminum, dissolved in two-thirds of an ounce of water, be added, a very strong mucilage is formed, capable of fastening wood together, or of mending porcelain or glass.

Large Doses of Iodide of Potassium.—In the course of the recent meeting of the American Dermatological Association, it was stated that Dr. A. Brooks, of Chicago, had given as much as one thousand grains per diem of iodide of potassium.

Recovery after Taking Eighty Grains of Tartar-Emetic.—Mr. F. Mason, of Bath, England, reports, in the *Brit. Med. Jour.*, a case of a laboring man who took, by the mistake of a prescribing druggist, eighty grains of tartar-emetic. No very serious results followed, but the use of tannin and emetics was resorted to, followed by decoctions of cinchona. The patient had been suffering with diarrhœa for several weeks, and seems really to have been benefited rather than made worse by the rough treatment he experienced.

ON THE MUTTON WINE OF THE MONGOLIANS, AND ANALOGOUS PREPARATIONS OF THE CHINESE.

By Dr. D. J. Macgowan, of Shanghai.*

Chinese medical writers make little distinction between Materia Medica and Materia Alimentaria. The *Pun-tsao*† ascribes therapeutic properties to all articles that are used as food. Nearly all portions of animals, the human frame included, are supposed to be efficacious in the treatment of disease. In their preparation they are for the most part subjected merely to ordinary culinary treatment. The exceptions consist of animal substances, which are macerated in fermented or distilled liquors. To these they apply the term *chiu*, commonly rendered "wine" by sinologues. Hence we find in the *Pun-tsao:* "Mutton wine, dog wine, deer wine, deer-horn wine, tiger-bone wine, black snake wine, flowery snake wine, *hi* snake wine, and tortoise wine."

Alcohol is designated in the *Pun-tsao* as ah-lih-kih, which indicates the Arabian origin in China of the art of distillation. It is seldom used as a pharmaceutical menstruum, their distilled *chiu* being employed as a solvent for articles used as medicines.

These animalized liquors, if that term be allowable, are for the most part extemporaneously prepared—a few only are to be had in apothecary shops ready made; such are several kind of snake wines. These latter are used in palsy. In Kwang-si the fermenting agent is a species of wild grass. The snake thus employed appears to be peculiar to the mountains of that province. To assure purchasers that the article is genuine, a strip of the skin of the animal is fastened to the top of the containing vessel. This wine is in high esteem as an anthelmintic and as an antidote to malaria. Wuhu on the Yang-tse produces a snake wine which is in high repute. An adder wine is used in paralysis and insanity. There is a long edible snake spoken of as found in Kiang-si, which, being dried and smoked, is pared off in thin slices, like smoked beef, and is found a convenient condiment by travellers.

The wine in which tortoise has been macerated is described as useful in chronic bronchitis. Cases of ten and twenty years' standing have, says the *Pun-tsao*, yielded to this remedy.

Dog wine is described as very heating and stimulating.

The officinal *mutton wine* of the Pharmacopœia is in fact made of goat's flesh, the goat and sheep being often confounded; the latter animal does not appear to have been known to the ancient Chinese.

Various species of sheep are described in the *Pun-tsao* or Chinese Pharmacopœia, which are not recommended for macerating in wine. Among these is the great-tailed sheep of the Kwan-lun mountains, the caudal extremities of which are stated to weigh thirty pounds, rendering locomotion difficult. It is added that these adipose tumors require to be removed annually, else the animal will die. Their tails are cut open, the fat cut out, when the edges are brought together by a suture.

Sheep and goat wines are directed to be prepared in the following manner: Take ten catties (1 catty = 1⅓ lb.) of soaked rice, seven catties of goat or sheep flesh, fourteen onions, one Shan-tung cabbage, and a catty of almond kernels. Mix them well together, and let the mixture stand and brew without malt for ten days, at the end of which time a small quantity of liquor is produced; it is a sweet and unctuous liquor, or mutton wine. This is the formula adopted in the preparation of all the animal liquors above named.

"Mutton or goat wine is a great restorer of the constitution; it strengthens the stomach, the kidneys, and testes," according to the *Pun-tsao*.

Having many years ago met with a jar of mutton wine, which its owner, a Mongolian mandarin, greatly prized, I instituted inquiries respecting its mode of preparation and uses among the nomads of the north, but without success until a few months ago, when the Rev. J. Gilmour, in response to a request that I made of him, courteously undertook the investigation of the matter, and was at the pains to have the article prepared under his own supervision.

The following were the ingredients: 1 sheep; 40 catties of cow's milk wine; 1 pint of skim milk, soured and curdled; 8 ounces of brown sugar; 4 ounces of honey; 4 ounces of fruit of Dimocarpus (*Euphorbia Litchi*, Desf.); 1 catty of raisins, and half a dozen other drugs weighing in all about one catty. The sheep must be a castrated male, and two years old, neither more nor less.

Plant necessary for Distillation.—1 large pot (cast iron), 1 wooden half-barrel opened at bottom,* 1 smaller pot (cast iron), 1 earthenware jar, felt belts, cow-dung, fire.

Process.—Set the boorher* on the large pot, calk the joining first with paper, then daub the outside with cow-dung and ashes. Make the boorher air-tight by plastering it all over outside with cow-dung.

Pour in the wine, add half the raisins (*i.e.*, 10 oz.), cut or crushed, half the brown sugar, the pint of skim milk, and the bones of the sheep's legs from the knee downward, after breaking them open.

From the other bones strip all the fat and most of the flesh, leaving them fleshy. Hang them, head and all, inside the boorher high enough to be beyond the reach of the wine, and low enough to be out of reach of the pot above. Break up the medicines into small pieces (do not pound them), and put them into the earthenware pot. Into that pot put also the honey, white sugar, dragon's eye, and the remaining half of the brown sugar and raisins; suspend the earthenware pot in the centre of the boorher, put on the pot above, and make the joining air-tight by paper, cloth, and felt bands. Apply fire to the great pot. When the upper pot feels warm to the touch, fill it with cold water and stir it. When the water becomes too hot to touch, ladle it out and fill up with cold water. When this second potful of water becomes too hot for the hand, slacken the fire, take off the upper pot, and the earthenware pot will be seen full of a dirty brown liquor boiling furiously. Take out the earthenware pot, pour off the liquid, replace the earthenware pot, replace the upper pot, fill with cold water. When this potful of water becomes hot the whole thing is over. The earthenware pot is again about half filled, pour it off and let it cool. When reasonably cold put it up in jars, and close them with the membrane of ox or sheep's bladders.

Remarks.—The great bulk of the flesh of the sheep is not used, nor any of the fat; all the marrow-bones are broken open. The skull is not broken open, nor the tongue extracted from the head. At the end of the process the mutton on the bones is cooked, but tastes badly. The quantity of cow's milk wine in the pot is not much diminished, but the strength is gone, and what remains is good for throwing away only.

Time of making.—"It should not be made before the seventh or eighth Chinese month. This was made on the 12th of the ninth month. It should not be used before the 11th or 12th Chinese month. None but aged people should drink it. It may be taken daily in one, two, or three small Chinese winecupfuls, till finished. The first winter the patient uses it, not more than 2 or 3 catties should be drunk. If found to agree with the patient, and if taken a second winter, another catty may be added, *i.e.*, first winter 2½, second 3½, third 4½ catties. If kept till spring it becomes useless, if not dangerous. Many people use it, but few take it more than one winter. Its use is (seemingly) to repair any manifestations of weakness arising from old age.

"*Case.* Rev. J. Gilmour's teacher, when 50 years old, was afflicted with a shaking of the head from right to left. He drank 2 or 3 catties of mutton wine in the dead of winter, recovered, and is now all right."

The liquor thus prepared has a very strong odor of mutton; it is sweetish and unctuous. Specific gravity, 0.98873. Alcoholic percentage, 9.14.

* First published in Journal of the North China Branch of the Royal Asiatic Society, vol. vii., 1873, p. 235.

† See New Rem., Jan., 1877, page 20.

* This is about two feet high and tapering. At the bottom it is large enough to sit on the rim of the big pot: at the top it is small enough to let the small pot sit in it without falling through. It is called *Boorher*.

REVISION OF THE UNITED STATES PHARMACOPŒIA.*

AT the late meeting of the Association at Toronto, a Committee was appointed for the purpose of "preparing a complete Pharmacopœia, which may be submitted to the medical and pharmaceutical professions, and which shall be laid before the final Council of Revision" (of the Convention of 1880). The short time intervening before that date makes it necessary that work should be begun at once, and in a systematic manner, and that each co-laborer should promptly enter upon his share of the labor. In order to save time, the six members residing nearest each other, namely, those of New York and Philadelphia, have discussed the general principles which should be followed in the preparation of the new pharmacopœia, and which it is hoped will meet the views of the other members of the committee, and of the profession at large.

General Principles.

1. The present division into Materia Medica (Primary and Secondary List) and Preparations shall be abolished, and all articles shall be mentioned in *one* alphabetical order, retaining, however, such headings as Acida, Aquæ, Decocta, Infusa, Extracta, etc., wherever it will be found useful to give general directions referring to the whole class. At the same time, all formulæ for the preparation of the single members of each class shall be made complete in themselves.

It has been suggested to follow the lead of foreign pharmacopœias in placing the name of the *part* of a plant in front, so as to make classes of Flores, Folia, Radices, etc. This alteration being one, which may be made at any time, it is left open for consideration and discussion.

2. It being deemed advisable to have the pharmacopœia rather too full than deficient, it is proposed not to omit any article at present officinal, but to leave the responsibility of cancelling with the final Committee of Revision. A list of "Remedies to be discarded" is, however, to be submitted to the latter.

3. The following is a *preliminary* list of new drugs and new preparations, comprising most of those which have been recommended for reception into the new pharmacopœia during the last ten years. Some of them, however, are of questionable value, and are only mentioned to draw out the opinions of others. Most of them are distinguished by a sign of interrogation [?]. The *first* name is the proposed officinal Latin name.

Crude Drugs:

Arum (maculatum and triphyllum), Aurantii folia (Citrus Aur.), Baptisia (tinctoria), Cactus (grandiflorus), Calendula (officinalis), Chelidonium (majus)?, Coca (Erythroxylon Coca), Eriodyction (Californicum), Eucalyptus (globulus), Fucus (vesiculosus), Galanga (Alpinia officinarum), Galium (Aparine)?, Grindelia (robusta and squarrosa), Guarana (Paullinia sorbilis), Hamamelis (Virginica), Pilocarpus (pennatifolius), Kalmia (latifolia)?, Malva (rotundifolia, etc.)?, Pulsatilla (Anemone Pulsatilla)?, Rhamnus (Rhamnus Frangula), Sumbul (Ferula Sumbul), Symphytum (officinale)?, Thea (Chinensis), Thuja (occidentalis)?, Tilia (ulmifolia; flowers), Trifolium (Menyanthes trifoliata)?, Triticum (repens), Tussilago (Farfara), Verbascum (Thapsus)?, Viburnum (prunifolium).

Chemicals:

Acidum Hydrobromicum dilutum, Acidum Oleicum, Acidum Salicylicum, Acidum Thymicum (or Thymol), Æther aceticus, Amyl Nitris, Apomorphia, Auri Chloridum, Bismuthi citras, Bismuthi et Ammonii citras, Chloral butylicum (Croton chloral), Caffeinum, Calcii bromidum, Calcii hypophosphis, Calcii iodidum, Calcii saccharas, Calcii sulphuretum, Camphora bromata (monobromated C.), Cinchonidiæ sulphas, Codeia, Colchicia?, Conia, Emetia, Ferri bromidum, Ferri carbonas saccharata (dry), Ferri hypophosphis, Lithii bromidum, Magnesia ponderosa (Heavy Magnesia; "Magnesia" might be made to denote the heavy variety alone), Morphiæ hydrobromas, Paraffinum, Piperinum?, Platini chloridum, Potassii arsenias, Potassii hypophosphis, Potassii sulphocarbolas, Propylamia?, Quiniæ hydrobromas, —salicylas,—tannas, Quinidiæ Sulphas, Salicinum, Sodii arsenias, Sodii bromidum, Sodii chloras, Sodii hypophosphis, Sodii iodidum, Sodii santonas, Sodii sulphocarbolas, Sodii sulphovinas?, Trimethylamia?, Zinci bromidum, Zinci iodidum, Zinci phosphidum, Zinci sulphocarbolas.

Pharmaceuticals:

Acetum aromaticum, Apiol?, Argenti nitras fusa diluta (½ arg. nit., ½ pot. nit.)?, Chinoidinum (objected to by some on account of its varying composition), Dextrinum, Elæosacchara, Elixiria—various, Emplastrum ichthyocollæ, Emplastrum fuscum, Extractum carnis, Extractum ergotæ (the fluid extract evaporated), Extractum jalapæ alcoholicum, Extractum malti, Extracta sicca (various), Extractum capsici fluidum, Extractum castaneæ fluidum, Extractum cocæ fluidum, Extractum eupatorii fluidum, Extractum petroselini fluidum?, Extractum tritici fluidum, Extractum vanillæ fluidum, Fel bovis depuratum, Glyceritum vitelli (or Glyconinum = Glyconin), Liquor ammonii anisatus, Liquor chloroformi compositus (Chlorodyne)?, Liquor opii compositus, Liquor sodii silicatis. Hydrargyri oleas, Aconitiæ oleas, Morphiæ oleas, Quiniæ oleas, Veratriæ oleas; (being solutions of the salts in excess of oleic acid, they cannot well be classed among chemicals; perhaps it would be best to put them under a special heading "Oleates"). Oleum phosphoratum, Oleum santali?, Opium denarcotisatum (in powder, and of standard morphia strength), Pepsinum, Pulvis glycyrrhizæ compositus, Pulvis morphiæ compositus (Tully's powder), Spiritus odoratus (Cologne), Syrupus calcis lactophosphatis, Syrupus hypophosphitum, Syrupus manganesii iodidi, Tinctura calami, Tinctura calendulæ, Tinctura chinoidini (objected to by some for the same reason as in the case of chinoidine), Tinctura eucalypti, Tinctura ferri acetatis, Tinctura gelsemii, Tinctura thujæ?, Unguentum diachylon (Hebra's Oint.), Unguentum paraffini (or Oleoparaffinum in place of the patented "Vaseline"), Vinum ferri amarum, Zinci nitras fusa.

This list is of course not complete; and additional suggestions of further additions, as well as criticisms of the preceding lists, will be very welcome. The members of the committee will have to take into consideration the wants of their locality, and suggest anything which is of frequent use in legitimate practice.

4. To all crude drugs, short and concise descriptions should be added, sufficient to indicate the distinctive characteristics visible to the naked eye; and, when necessary, such as are visible under an ordinary good pocket-lens. Common admixtures or sophistications should be mentioned, and the differences pointed out. The botanical names of plants should be accompanied by the name of the determining botanist, and by the name of the natural family.

5. Chemicals, except those where differences of preparation may produce different results, shall only be described and defined by tests of identity and purity. Processes appear to be required only in the following cases:

Solutions of chemicals (Liquores, etc.), Acid. benzoic, Acid. nitro-muriat., Acid. phosphor. dil. (should be made stronger), Acid. hydrocyan. dil., Acid. hydrobrom. dil., Acid. sulphurosum, Aconitia, Arg. nitras fusa, Bismuthi et ammon. citras, Calcii phosphas ($CaHPO_4$), Calcii saccharas, Ferri et quin. cit., Ferri et strych. cit., Ferri citras, Ferri et amm. cit., Ferri et ammon. tart., Ferri et pot. tart., Ferri iodid., Ferri oxid. hydrat., Ferri pyrophosph., Ferri sulph. exsicc., Ferrum redactum, Hydrarg. iod. vir., Hydrarg. oxid. flav., Hydrarg. ammon. chlor., Hydrarg. sulphuret. nig., Potass. sulphuret., Quiniæ salicylas, Quiniæ tannas, Sulphuris iodid., Sulphur. præcip., Antim. oxysulphur., Arsenici iodid., Digitalinum, Acidum oleicum depuratum, Zinci phosphidum.

* A circular issued by the Chairman of the Committee of Sixteen, referred to in the Editorial.

6. Temperature shall be expressed both by degrees of Centigrade, and by degrees of Fahrenheit.

7. Under the title of those chemicals which admit of it, their formulæ after the new notation, and their atomic weights shall be given.

8. All measures of capacity shall be abandoned, and quantities shall be expressed only in parts by weight. In the case of liquid galenical preparations the carrying out of this rule is difficult, if it is at the same time required to preserve the present strength of these preparations. As a general rule, it may be set down that those tinctures, wines, etc., where a slight variation of dose is of no account, should all be made of uniform strength, even if differing from that at present in use. But in the case of very active preparations, such as Tinct. aconiti, opii, nucis vomicæ, veratri viridis, etc., the present strength is to be as nearly as possible retained.

In the case of fluid extracts, it is proposed to ascertain from a series of very carefully made samples, *representing minim for grain*, and prepared from drugs of known hygrometric condition by means of menstrua of known strength, the *weight of the product* obtained, which figure shall be made use of, in the new formulæ, to indicate the weight of the finished extract. Although the figures obtained for the different fluid extracts will vary among themselves, still the result will be that, while these preparations conform to the general rule of being *made* by weight, they will nevertheless represent the drug, minim for grain.

9. Under all officinal articles, which, as such, are used as remedies, the average *adult* dose should be stated. In case the remedy has a peculiar active effect upon infants (as in the case of opium), the *maximum infant dose* should also be added. Perhaps in this manner:

Dose.—Single: — grs. Daily: — grs. Maximum single dose for infants: — grs.

10. The following tables are suggested to be added to the pharmacopœia:

a. A table of the maximum single and daily doses of powerful remedies.

b. A table of poisons and antidotes.

c. A table of the solubilities of the officinal chemicals in water and alcohol, at 15.5° C. (60° F.), and at their boiling-point.

d. An alcoholometrical table (Dr. Squibb's is the most useful).

e. Tables of the spec. grav. of the officinal liquid acids. (Wherever possible, specific gravities should be given both for 15.5° C. (60° F.), and for 25° C. (77° F.).)

f. A table of reagents in proper dilution; and a list of normal volumetric solutions.

g. A table of the relationship between weight and measure of all liquid preparations. This would facilitate the introduction of the system of prescribing by weight alone. The table might have this shape:

Apothecaries'.		Name of Preparation.	Metric.	
1000 *grs.* measure.	1000 *min.* weigh.		1000 *gms.* measure.	1000 *cc.* weigh.*
777 *min.*	1287 *grs.*	Liq. Ferri Chlor..	738 *cc.*	1355 *gm.*
842	1187	Glycerina.....	800	1250
1447	691	Ether fortior.....	1374	728

h. A table of the quantities of the chief constituents of the important mineral waters, which are used medicinally.

i. A comparative table of the strength of powerful galenical preparations of the principal foreign pharmacopœias used in this country.

k. A table exhibiting the differences in strength of the preparations as made by the previous and by the new pharmacopœia.

11. All contributions from the members of the Committee should be written *plainly*, on ONE side of foolscap paper.

* The figures in this column at the same time denote the specific gravities of the preparations.

Formulæ which are transcalculated into parts by weight should be sent as follows:

Linimentum Saponis.	Original Formula.	Exact Weight.	Approximation.		
Soap.....	4 troy oz.	1920 grs.	19	or	20
Camphor.....	2 "	960 "	10		10
Oil Rosemary...	½ fl. oz.	207 "	2	simpler	2
Water.....	6 "	2734 "	27		25
Alcohol.....	2 pints.	12176 "	122		120

The work which is to be done by the Committee naturally divides itself into three branches: *Pharmacognosy*, *Chemistry*, and *Pharmacy*. It has been thought best to form a sub-committee of three, to be called Expert Committee, each member of which will take charge of one of these branches, and will invite the co-operation of other members of the General Committee. It augurs well for the result that Prof. *J. M. Maisch* of Philadelphia, and Dr. *Fred. Hoffmann* of New York, have agreed to take charge, the former of Pharmacognosy, and the latter of Chemistry. The department of Pharmacy, which contains still some open questions requiring settlement, the *undersigned* will for the present retain; besides, he will take charge of the general management, and of the codification of whatever is contributed.

The members of the Committee, as well as the members of the Association at large, have to express their deep regret that the services of the man who has done more than any other to bring about a revival in pharmacopœial matters, and to elevate American pharmacy—Dr. Ed. R. Squibb—could not be secured, in an *official* capacity, for the purposes of this Committee. His reluctance to serve, we are authorized to say, is not due to diminished interest in the Pharmacopœia, nor to unwillingness to work for it in the way now to be tried by this Committee, which has already had his counsel fully and freely given in the past, and has every assurance of receiving it in the future; on the contrary, it is owing to his conviction that it would not be consistent to take a prominent part in a movement led by the American Pharmaceutical Association, which had been received with such marked disfavor when proposed to the American Medical Association.

The names and addresses of the Committee are as follows:

WILLIAM SAUNDERS, London, Ontario.
FREDERICK HOFFMANN, Ph.D., New York, N. Y.
P. WENDOVER BEDFORD, New York, N. Y.
JOHN M. MAISCH, Philadelphia, Pa.
JOSEPH P. REMINGTON, Philadelphia, Pa.
CHARLES BULLOCK, Philadelphia, Pa.
GEORGE F. H. MARKOE, Boston, Mass.
SAMUEL A. D. SHEPPARD, Boston, Mass.
JOHN F. HANCOCK, Baltimore, Md.
ALBERT E. EBERT, Chicago, Ill.
C. LEWIS DIEHL, Louisville, Ky.
EDWARD S. WAYNE, Cincinnati, O.
WILLIAM H. CRAWFORD, St. Louis, Mo.
CHARLES MOHR, Mobile, Ala.
EMLEN PAINTER, San Francisco, Cal.

CHARLES RICE, NEW YORK, N. Y.,
Chairman.

An Electric Plant.—In the *Hamburg Garten- und Blumenzeitung*, 1877, No. 1, Mr. Levy describes a plant, which he asserts emits electric shocks when touched, or when tearing off branches. It is also said to affect the magnetic needle at a distance of 7 or 8 paces. The plant is said to be a new species of *Phytolacca*, and has been named *Ph. electrica*.

Quinia Alkaloids in the Marine Hospital Service.—The Supervising Surgeon-General of this service has issued a circular to the medical officers, calling attention to the relative value and prices of other than the quinia salts.

THE MEDICAL DEPARTMENT OF SYRACUSE UNIVERSITY, AND MEDICAL EDUCATION.

EDITOR OF NEW REMEDIES.

DEAR SIR: I send with this our circular, and would like to call your attention to the fact that this school was the *first* after Harvard, of all the schools in the United States, to adopt the graded system in full.

We subject students to preliminary examination to exclude unworthy material; our college year is nine months long; we insist upon attendance throughout the entire year of all candidates for the degree; we make a systematic division of studies, and insist upon each regular student following the prescribed course. We are doing honest, thorough work, and we want the profession to know it.

A notice in a late number of NEW REMEDIES, alluding to a new departure by the Ann Arbor school, and to the advanced stand taken by Harvard and the Philadelphia school, gives *us* no credit—and we need all the credit through the press that we deserve. I think the matter of "advance" in medical education stands about like this:—The first school in the United States to classify its pupils, and adopt a graded course, was the Chicago Medical College, nineteen years ago. The ordinary lecture-term was not lengthened, nor is it yet.

Harvard followed in 1871, adopting not only the graded course, but a college year *nine months long*. The Syracuse school followed Harvard on the same plan two years ago, and now Ann Arbor wheels into line.

Several other schools have adopted a system of gradation, but none in the United States, save Harvard, Syracuse, and Ann Arbor, have lengthened the required time of study to more than a single lecture-term of five months.

Time for study is as essential as gradation and classification. The great and venerable school connected with the University of Pennsylvania, has done well, so far as she has gone, but she needs to put on another term, and *require* attendance throughout *both* terms of the year.

Very truly yours,

WM. T. PLANT, *Registrar*.

SYRACUSE, N. Y., Sept. 24, 1877.

BIBLIOGRAPHY.

THE EAR: ITS ANATOMY, PHYSIOLOGY, AND DISEASES. A Practical Treatise for the use of Medical Students and Practitioners. By CHARLES H. BURNETT, M.D., Aural Surgeon to the Presbyterian Hospital, etc., with eighty-seven illustrations. Philadelphia: Henry C. Lea, 1877. 8vo, pp. 615.

CONSIDERABLY more space than we can allow to it would be required to give a notice worthy of this admirable work. The author has become well known as an authority on the affections of the organ of hearing; and the volume which, after considerable preparation, he now offers to the medical profession, completely justifies his reputation. The number of references to the literature of the subject is very large and correspondingly valuable. Part First, on the anatomy and physiology is very complete, and illustrates well the degree of refinement in such matters which follows the labor of specialists; as, for example, when Dr. J. C. Blake's observations on the weight of the ossicles are quoted, and it is gravely stated that "it is also worthy of note that the proportionate weight of the ossicula, one to another, is not constant." Considering that the same may be said of every other organ and feature of the body, this does not seem to us so *very* remarkable. One hundred and sixty-two pages are given to the part referred to, which is as complete in its descriptions and as thoroughly illustrated as could be desired.

Part Second, devoted to an account of the diseases of the ear, is arranged in sections as follows: 1. Examination of Patients; 2. Auricle; 3. External Auditory Canal; 4. Membrana Tympani; 5. Middle Ear; 6. Internal Ear; 7. Deaf Mutes and Partially Deaf Children.

In special treatises, at the present day, while etiology and pathology are quite likely to receive as thorough consideration as the state of our science will permit, the question of treatment is too often presented in a way that would seem to presume it to be of minor importance. In the present instance, however, we are pleased to see a commendable degree of attention to this view of the subject, and take it as welcome evidence of the practical familiarity of the author with that which he writes about.

GENERAL PRICES CURRENT of Foreign and Domestic Drugs, Medicines, Chemicals, Extracts, Pharmaceutical Preparations, Essential Oils, Sponges, Fancy Goods, Druggists' Sundries, Perfumery, Proprietary Articles, etc., etc. W. H. SCHIEFFELIN & CO., Importers and Jobbers, Nos. 170 and 172 William Street, New York. September, 1877. 8vo, pp. 318.

THIS is one of the most complete and elegantly prepared lists of prices and goods that has yet come to our notice, and testifies to the good taste of this well-known and enterprising house.

PRACTICAL HINTS ON THE SELECTION AND USE OF THE MICROSCOPE. Intended for Beginners. By JOHN PHIN, Editor of *The American Journal of Microscopy*. Second edition. New York: Industrial Publication Co. 1877. 12mo, pp. 181.

THIS is a clearly written, well illustrated, carefully arranged, and practical little work. It is well adapted as a guide for beginners in microscopy, and offers advice which will be of value to those who think of providing themselves with an instrument and its accessories. Those who cannot afford more expensive works will not regret the purchase of this hand-book, since it embraces pretty much all that is likely to be of value to them.

TRANSACTIONS OF THE KENTUCKY STATE MEDICAL SOCIETY. Twenty-second Annual Convention. Held at Louisville, April 3, 4, and 5, 1877. 8vo, pp. 217. Published by the Society.

THE venerable Lunsford P. Yandel, M.D., was elected President of the Association, the proceedings of which were made interesting by a number of good papers on a variety of subjects. Those of a therapeutical nature were as follows: "Anæsthetics in Parturition," by the President, L. P. Yandel. [Endorsing strongly the employment of anæsthetics—the possible objection to the use of chloroform, that it has been thought to favor hemorrhage following delivery, being nullified by the power of ergot.] "Report on Materia Medica," by L. P. Yandel, Jr. "The Pathology and Treatment of Sprains," by R. O. Cowling, M.D. [A very reasonable and readable paper on a subject about which the profession has learned much from the sect of bone-setters.] "Infantile Therapeutics," by J. A. Larrabee, M.D. "Physiological Therapeutics in Fever," by John L. Cook, M.D., etc., etc. The typography and binding, by John P. Martin & Co., of Louisville, are very creditable pieces of work. We regret that this, like numerous similar publications, is issued without a table of contents or an index—omissions which deprive an otherwise admirable book of part of its value.

NOTE SUR LA FORMATION de l'Axide Oxalique, pendant la Destruction des Matières animales par le Procédé de Fresenius et Babo. EDM. VAN MELCKEBEKE. Republished from the Bull. de l'Acad. Roy. de Méd. de Belg. XI. [3]. No. 6.

APPLICATION OF ORGANIC ACIDS TO THE EXAMINATION OF MINERALS. By H. CARRINGTON BOLTON. New York: 1877.

OFFICIAL CIRCULARS OF THE JOHNS HOPKINS UNIVERSITY. Nos. 10 and 11. Baltimore: June, 1877.

DEFECTS OF HEARING AND OTHER EVILS; the Result of Enlarged or Hypertrophied Tonsils, etc. By A. W. CALHOUN, M D. Atlanta, Ga.: 1877. Privately published. 8vo, pp. 12.

ADVISES removal with the bistoury, and quotes a number of cases.

ETHERIZATION. By D. W. C. WADE, M.D., of Holly, Mich. 8vo, pp. 18.

REPRINT from the transactions of the Michigan State Medical Society, advocating the substitution of ether for chloroform as an anæsthetic, and offering an apparatus for facilitating its use in administration.

PUERPERAL FEVER (*Puerperal Bacturæmia*). By DE WITT C. WADE, M.D., of Holly, Mich. Privately published. 8vo, pp. 8.

THINKS the disease is due to presence of bacteria in the blood, a theory that has many and strong opposing arguments; but, however correct or otherwise his theory of causation may be, the treatment of the affection recommended is logical.

MANAGEMENT OF THE INSANE IN GREAT BRITAIN. By H. B. WILBUR, M.D. Privately published. 8vo, pp. 74.

THE second edition of a report made a year since, and published under the sanction of the State Charities Aid Association. About 20 pages devoted to a rejoinder to a criticism of the first edition in the *Amer. Jour. of Insanity* of January.

THE PHYSICIAN'S VISITING LIST FOR 1878. (Twenty-seventh Year of Publication.) Philadelphia: Lindsay & Blakiston. With tuck and pencil. Price, $1 to $3, according to size.

THIS useful book was the first of its kind published in this country, and has proved to be very popular. Its publishers find it desirable to have it ready for early issue to meet the demand on the part of booksellers and druggists, from whom physicians obtain their supply. The various sizes are adapted for twenty-five patients a week and upwards. Besides the blank leaves for memoranda, it contains an almanac, table of signs, Marshall Hall's method of resuscitating asphyxiated persons, poisons and their antidotes, table for calculating the period of utero-gestation, etc. It also has a pocket for cards and prescription papers.

THIS house has also recently issued a revised catalogue of its publications, many of which have been greatly reduced in price. The catalogue will be furnished gratis upon application.

CYCLOPÆDIA OF THE PRACTICE OF MEDICINE. Edited by Dr. H. VON ZIEMSSEN. Vol. XVI. Diseases of the Locomotive Apparatus, and General Anomalies of Nutrition. ALBERT H. BUCK, M.D., Editor of the American Edition. New York: William Wood & Co. 1877. Roy. 8vo, pp. 1,060.

THE sixteenth volume of this noble work contains the following sections: The Rheumatic Affections of the Joints and Muscles, Rheumatism, Gout, Arthritis Deformans, Rickets, Malacosteon, by Prof. H. Senator, of Berlin [Translated by E. Buchanan Baxter, M.D., of London]; Slight Disorders Caused by Catching Cold, by Prof. E. Seitz, of Giessen [Translated by Dr. Baxter]; General Disorders of Nutrition, Corpulence, Anæmia, Chlorosis, Progressive Pernicious Anæmia, by Prof. H. Immermann, of Basel [Translated by Dr. Baxter]; Scrofulosis and Affections of the Lymphatic Glands in General, by Dr. Birch-Hirschfeld, of Dresden [Translated by Godfrey Ainger, M.D., of New York]; Diabetes Mellitus, and Diabetes Insipidus, by Prof. H. Senator [Translated, respectively, by Frank P. Foster, M.D., of New York, and Henry P. Bowditch, M.D., of Boston].

There are few topics in medicine which have undergone such important changes and received such considerable additions within a short period as the ones embraced in this volume, and its publication counts for considerably more than a simple numerical addition to the number of volumes already issued. It is one of the most valuable books of a series which is already without a rival.

MEDICINAL PLANTS. Being Descriptions, with Original Figures, of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By ROBERT BENTLEY, F.L.S., and HENRY TRIMEN, M.B., F.L.S. Philadelphia: Lindsay & Blakiston.

SUBSCRIBERS to this elegant and valuable work can now obtain parts 11, 12, and 13, the contents of which are as follows:

PART 11.—Columbo (*Jateorrhiza Calumba*); Bael (*Ægle Marmelos*), or the Bengal Quince [See NEW REM., iv., p. 161], a remedy for dysentery; Quassia (*Picræna Excelsa*); Black Alder (*Rhamnus Frangula*); Blackberry (*Rubus Villosus*); Wormwood (*Artemisia Absinthium*); Yew (*Taxus baccata*).

PART 12.—Horse-Radish (*Cochlearia Armoracia*); Fenugreek (*Trigonella Fœnum-græcum*); Red Rose (*Rosa Gallica*); Manna Ash (*Fraxinus Ornus*); Garden Thyme (*Thymus vulgaris*); Mezereon (*Daphne Mezereum*); Scotch Fir (*Pinus sylvestris*).

PART 13.—Aconite (*Aconitum Napellus*); Gulancha (*Tinospora cordifolia*), an antiperiodic and tonic Hindustanee drug; Cowhage (*Mucuna pruriens*); Elecampane (*Inula Helenium*); Pellitory (*Anacyclus Pyrethrum*); Levant Wormseed (*Artemisia pauciflora*); Nux-vomica (*Strychnos Nux-vomica*).

Each part has a double-page illustration, and all are fully up to the excellent character of the numbers that have preceded them.

NEW BOOKS.

Thorpe (J. E.). Inorganic Chemistry. Part II. Metals. 12mo, $1.50. G. P. Putnam's Sons.

Thudichum (J. L. W.). A Treatise on the Pathology of the Urine, with a Complete Guide to its Analysis. 2d ed. 8vo, pp. 570. Lindsay & Blakiston. $5.00.

Cristiani (R. S.). A Comprehensive Treatise on Perfumery, etc. 8vo, pp. 400. $5. Henry C. Baird & Co.

Woodman (W. B.) and **Tidy** (C. W.). A Text-Book of Forensic Medicine and Toxicology. Illustrated. 8vo, cloth. $7.50.

Farquharson (Robert). A Guide to Therapeutics. Edited with additions embracing the U. S. Pharmacopœia. By Frank Woodbury, M.D. Royal 12mo (announced).

Burnett (Charles H.). The Ear. Its Anatomy, Physiology, and Diseases. 87 Illustrations. 8vo, pp. 620. Henry C. Lee. $4.50.

Hehn (Vict.). Kulturpfanzen und Hausthiere in ihrem Übergang aus Asien nach Griechenland und Italien, etc. 8vo. Berlin. In numbers, à 64 kr. (= 32 cents).

Gautier (E.-J.-Arm.). La Sophistication des Vins. Moyens pratiques de reconnaître la fraude. 18mo, pp. 204. fr. 2.50.

Cauvet (D.). Nouveaux Éléments d'Histoire Naturelle Médicale. 2me ed. 2 vols. 18mo. fr. 12.

Duchartre (P.). Éléments de Botanique. 8vo, pp. 1,200. 540 fig. fr. 20.

Griffin (J. J.). Chemical Handicraft: A classified and descriptive Catalogue of Chemical Apparatus. 2d ed. 8vo, pp. 476. 4s.

TRADE NOTES.

A New Coupon Ticket for Druggists' Sundries.

WE have recently seen a little octagonal ticket which Mason & McNeil, an enterprising drug-firm in Bay City, Mich., have made use of in their business, as follows: Printed in the centre is a declaration that the check is "Good for $1 worth of cigars" [or soda-water, etc., as the case may be], and around the margin the numeral 5 is printed twenty times. As many numbers may be punched out as correspond to the value of the goods furnished.

In a credit business the debtor can indorse his check, and when used up leave it with the druggist, to be sent in as a voucher with his bill. It makes a business card which will surely be taken care of, and helps to keep trade.

Sulphate of Atropia.

WE desire to direct attention to a new brand of atropia and its sulphate, manufactured by the well-known house of Gehe & Co., of Dresden, Saxony, which is prepared with great care, and appears to be free from the drawbacks which have within the last year or two been found connected with the products of other manufacturers. We have been frequently informed by prominent eye-surgeons that the quality of the atropia sulphate of late years has considerably deteriorated from some unknown cause or other, nor have we as yet been able to find a reason for it; but there appears to be no doubt that it did not act as efficiently and promptly as formerly. So far as Gehe & Co.'s atropia is concerned, it has given entire satisfaction. It may be obtained from Messrs. McKesson & Robbins, New York.

Parchment Paper for Dialysing.

MESSRS. MCKESSON & ROBBINS have imported, at our suggestion, two varieties of parchment paper, specially made for dialysing purposes, entirely free from flaws and of great uniformity of texture, made by R. Rube & Co., of Weende, near Göttingen. No. 1 is a heavy paper, intended for large dialysers, and No. 2 is a thin variety for smaller apparatus. The size is 65 centimetres (26 inches) in width, and may be had of any length required.

Reduced Iron, Chemically Pure, manufactured by Rundspaden, in Hameln, has been noticed by us, after a report made by Dr. Schacht, of Berlin, in our July number, p. 207. It fulfils all the tests there given, and should be used by careful dispensers. It may be obtained from McKesson & Robbins, New York.

Apparitor Auris.

THE Apparitor Auris is said to be a powerful aid to the deaf in hearing, and has met with such marked success in England and the Continent that Messrs. Geo. Tiemann & Co. have introduced it here at a price much below that attained in England, and of finer material and better workmanship. They are made of sterling silver with flesh-colored enamel, or of flesh-colored hard rubber.

They are sold in pairs, one for each ear, and are so shaped that they can be worn entirely within the concha, being almost unobservable on account of their close fit and flesh color.

The advantage of this instrument over the well-known cornet consists in having the canal elongated and overbridged, so that sound entering the aperture (A) cannot diffuse, but is conducted within the tunnel through the meatus auditorius (B) to the tympanum.

Correction.

OUR reporter, whose account of the exhibit of pharmaceutical goods at Toronto was published on page 280, was mistaken in his statement that Wm. R. Warner & Co., of Philadelphia, exhibited compressed pills among their other wares. Compressed pills have never been manufactured by that house.

ANALYSES OF PHARMACEUTICAL CHEMICALS AND PREPARATIONS.

We are now prepared to send samples for the December prize to such as may desire to compete for it. Answers must be received before the 20th of November, and be accompanied by a sealed envelope containing the name of the writer, and designated by a device or motto, which is also to be placed, instead of the writer's name, upon the report of the analysis.

Persons to whom a prize has been awarded are requested to send to the publishers the title of any book or books they may desire, not exceeding in the aggregate the value of $10.00.

The prize this month will be divided equally between H. F. MEIER *("Chow Chow") of Detroit, and* ALEX. M. LINNET *("Photo.") of Newark, N. J.*

THE sample for the October analysis contained potassic iodide, fifteen per cent.; potassic bromide, seventy-eight per cent.; and potassic bicarbonate, seven per cent. The potassic iodide contained a trace of sulphate; the bromide was pure, and the bicarbonate contained traces of sulphate and chloride. This sample may be considered as iodide of potassium largely adulterated with bromide of potassium. There is abundant evidence that a considerable number of samples of potassic iodide contain potassic bromide in amounts too large to be regarded as an accidental impurity.

From twenty to seventy-five per cent. of bromide have been reported found in certain samples of iodide, and the writer of this article has analyzed one sample of so-called iodide, which was entirely bromide.

The similarity in form of the crystals of both salts, the much lower market value of the bromide, and the fact that only good analysts can detect even considerable amounts of bromide in presence of the iodide, all tend to render this sophistication of the iodide both possible and probable. In reviewing the analyses this month it will be unnecessary to pay any attention to the detection of potassium. The identification and separation of hydrochloric, and hydriodic acids will, accordingly, be the subject of this article.

The method usually employed for the detection of hydrobromic and hydriodic acids depends on the principle that chlorine will displace bromine and iodine from these acids; accordingly to an aqueous solution suspected to contain bromide or iodide, we add chlorine water,* *drop by drop.*

a. If only an iodide is present, a brownish-black or purple color of iodine will be produced.

If too much chlorine is added the iodine is decolorized, forming iodic acid (HIO_3).

The liberated iodine may be recognized by the dark blue or purple color it imparts to starch paste; also by the violet color imparted to chloroform or carbon disulphide, when shaken with them.

b. In case only a bromide is present, bromine will instantly be liberated. Bromine colors starch paste yellow, and dissolves in carbon disulphide, with a color varying from a pale yellow to a dark red, according to the amount of bromine liberated.

c. If both bromide and iodide are present, all the iodine will be liberated before any bromine appears. Small amounts of bromide are thus often overlooked.

In case much bromide is present the color of iodine may not be noticed, especially if too much chlorine is used. This is due both to oxidation of part of the iodine to colorless iodic acid, and to the masking of the iodine color by excess of bromine.

d. The detection of chlorine in the presence of bromine and iodine requires careful manipulation. Only one prac-

* A good substitute for chlorine water is made by heating about five grains of potassic chlorate with a little hydrochloric acid, then diluting with water to about two fl. dr.

ticable process has yet been devised, and it must be admitted that it is very difficult to find such slight traces of chlorine as were present in the sample just sent. The following is the best method:

To a considerable quantity of the substance—ten to twenty grains—add about an equal weight of potassic dichromate; place in a long test-tube, fitted with a cork and bent tube for distilling; cover the mixed salts with concentrated sulphuric acid, and heat gently. Receive the liberated gases in ammonic hydrate.

By this treatment iodine and bromine are liberated from iodides and bromides, volatilized by the heat, and when received into the ammonic hydrate form colorless iodide, iodate, bromide, and bromate of ammonium. If any chloride is present, there is liberated, *not chlorine*, but chloro-chromic anhydride * (CrO_2Cl_2).

This gas, which much resembles bromine in color, forms, with ammonic hydrate, a yellow solution, containing chloride and chromate of ammonium, thus:

$$CrO_2Cl_2+4NH_4HO=(NH_4)_2CrO_4+2NH_4Cl+2H_2O.$$

The formation of chromate in this distillate is the reaction which proves the presence of chloride in the substance under examination.

Having, then, a sample containing chloride, bromide, and iodide, the method of analysis would be as follows: The chloride would be identified according to method *d*. Next, to about one fl. dr. of the aqueous solution are added a few drops of chlorine water, and the liquid is well shaken with carbon-disulphide. The liberated iodine is freely dissolved by the disulphide, and sinks to the bottom of the tube. Remove the saturated disulphide with a pipette; add a fresh supply and more chlorine, if necessary; continue the operation until no more iodine is separated, and the characteristic yellow color of bromine appears. The removal of the iodine by this process is sure, but often quite tedious, and may be accomplished more quickly in several ways:

1. By precipitation with cupric sulphate with a reducing agent, as white cuprous iodide (Cu_2I_2). Ferrous sulphate or sulphurous acid are good reducing agents.

2. By precipitation with palladious chloride as black palladious iodide (PdI_2). The best method, but seldom employed because of the expense of the reagent.

3. By precipitation of chloride, bromide, and iodide of silver, and treatment of the washed precipitate with considerable ammonic hydrate. The chloride and bromide dissolve; the iodide does not. An approximate separation.

4. By boiling the solution with potassic chlorate and hydrochloric acid. The iodine is partly expelled by the heat, and the remainder is oxidized to iodic acid.

Bromine is unchanged by the above ways of treatment, and may be identified by the usual tests. Methods 1 and 4 are good, and usually employed.

The bicarbonate of potassium was added to this sample to call to mind the fact that nearly all commercial iodide of potassium has an alkaline reaction, and contains from three to five per cent. of carbonate of potassium; this excess of carbonate causing the iodide to be much more deliquescent. Bicarbonate was added, in this case, as it is not deliquescent, hence could be sent in paper packages.

Iodides and bromides often contain traces of iodates and bromates. These impurities, when present in considerable amounts, are medicinally dangerous, and should always be tested for.

See text-books for ways of identifying them.

ANSWERS TO STUDENTS.

Six of the answers received this month were essentially correct; the following is a list of those whose analyses were correct, given in order of merit:

"*Chow-Chow*" and "*Photo.*" No choice.

"*Otto.*"

"*Labor omnia vincit.*"

"*Perseverance, accuracy, and dispatch.*"

"*Frederick, Md.*"

"*Otto.*"—A little faulty spelling was all that was wrong in your analysis.

"*Perseverance, accuracy, and dispatch.*"—Your trace of iron was found because you did not wash the hydrosulphuric acid gas carefully enough. Always pass it through water.

"*Photo.*"—The announcement in August NEW REMEDIES was for the September sample.

"*J.*"—The reason you failed to find the bromide is given in *c*.

"*Gastrinum.*"—Your mistake in not finding the iodide is explained in *c*.

"*Sub.*"—If the mercuric chloride is in excess HgI_2 will be precipitated; but if excess of KI is present the red precipitate will be dissolved, forming potassic mercuric iodide $(KI)_2HgI_2$. This was the cause of your trouble.

"*Helianthus.*"—Your tests for chloride were not conclusive.

"*Sublimate.*"—Your answer correct, but too late to compete.

* This may be considered as chromic anhydride (CrO_3), in which one atom of oxygen has been replaced by two atoms of chlorine.

NOTES, QUERIES AND ANSWERS.

[*Under this heading we shall, to the best of our ability, endeavor to answer such questions addressed to us as come within the scope of this journal, provided they are accompanied by the name and address of the writer. Answers to queries received after the 5th of the month will lie over until the next issue.*]

Elixir of Gentian with Iron (C. F. W., Greenfield, Mass.).—The formula given in our August number, page 251, is probably as good as it can be devised, if you want a *ferric* salt as a constituent. You will remember that there has been a discussion going on for some time between various investigators (Prof. Maisch, Mr. Patch, and others) on the presence or absence of tannin in gentian root, which has resulted in what we consider proof of the absence of tannic acid, as such. There is, however, a bitter principle present, namely, gentianin, or gentianic acid, which produces a dark coloration in liquid preparations of gentian containing ferric salts. Indeed, quite lately, Mr. Ville, of Montpelier, who also examined the subject, contends that this bitter principle is a particular variety of tannic acid, and proposes to call it "gentiano-tannic acid." We should, therefore, have somewhat modified the words we used in our August number, in this respect. You will, however, be able to avoid discoloration by using a *ferrous* salt, as green sulphate of iron, or better, ferrous chloride.

Extract of gentian	256 grains.
Water, hot	1 fl. oz.
Simple elixir	14 fl. oz.
Hydrochloric acid	132 grains.
Water	1 fl. oz.
Iron filings, q. s., or about 1 drachm.	

Dissolve the extract in the warm water and add to the elixir. Place the iron into a small flask, add the water and acid, and when the escape of hydrogen gas has nearly ceased, boil the contents and filter directly into the elixir; finally filter the whole, if necessary.

Acidum Tartaricum "Comp."—One of our subscribers desires to know what this substance can be. He has had a prescription presented to him on several occasions, calling for this curiosity, but neither he nor we are able to ferret it out. We shall be pleased to hear if any of our readers can answer this query.

Wernich's Ergotin (R. L., Harrisburg, Pa.).—The *Pharm. Zeit.*, No. 69, enables us to answer the query you sent us nearly a year ago. This is a preparation intended for hypodermic use, and has the title: "Extractum Secalis Cornuti bis depuratum pro injectione." It is sold by J.

D. Riedel, of Berlin. It may be made by dissolving the Extractum Secalis Cornuti of the German Pharmacopœia in three or four parts of dilute alcohol, filtering, evaporating, and repeating the process. Even after this second solution, a small quantity of a gelatinous mass will remain on the filter.

Girondin Disinfectant (A. G. S., Brooklyn, N. Y.).—The principal constituents of this fluid are the chlorides and sulphates of zinc and copper, together with a number of other substances, which were present as accidental impurities in the metallic salts or metals employed.

"Country Chemist."—We regret that for the subject of your inquiry, which is rather foreign to the purposes of our journal, we have at present no space.

G. H. B. (Boston, Mass.), D. C. G. (Evansville, Wis.), and W. C. R. (Mt. Carmel, Ill.).—The nostrum you inquire about has not been analyzed thus far. We do not know its composition.

Blue Soap (J. A. D., Indianola).—We know of no other substance, which, when added to an alkali (soap), would turn it blue, but some soluble blue color. As we do not know the object, we cannot advise you.

Emulsion of Oil of Turpentine (P. F. T., Wamego, Kan.).—Forbes's plan is the best for preparing the emulsions (more properly "pseudo-emulsions") of volatile oils, ether, and chloroform. The proportions are:

℞. Ol. terebinth	fl. ʒ	ss.
Pulv. acaciæ subtiliss	ʒ	ij.
Syrupi, q. s. ad.	fl. ʒ	iv.
Ol. menthæ pip	gtt.	v.

Pour the oil of turpentine into the vial and shake it about to moisten the walls, then add the powdered gum arabic and agitate thoroughly; next add the syrup in small portions, shaking well each time, and finally add the oil of peppermint, which will completely disguise the taste of the oil of turpentine. See also NEW REMEDIES, vol. v., p. 287.

Vinum Lusitanicum (W. H. G., Zanesville, O.).—This is simply port wine, so called from the Latin *Lusitania*, which corresponds nearly to what is now the kingdom of Portugal.

Cyanides of Iron (R. G., M.D., Guttenberg, Iowa).—There are theoretically two hydrocyanates of iron, namely, the ferrous cyanide $Fe(Cn)_2$, and the ferric cyanide $Fe_2(Cn)_6$. Neither of these, however, are known to exist in a free state. The nearest approach to them may be obtained by adding to a solution of potassium ferrocyanide silicofluoride of iron (prepared by acting with hydrofluosilicic acid upon moist oxide of iron), whereby the potassium is removed as silicofluoride. The brownish yellow solution which remains is, however, very apt to decompose. At all events, no such salt has been or is likely to be employed in medicine.

NEW PATENTS AND LAWS.

[We will furnish gratis, to subscribers, any information relating to new patents which can be obtained from the Official Gazette of the Patent Office; and for 50c. will give copies of the drawings of such as are illustrated. Electrotypes of the illustrations contained in NEW REMEDIES *will be furnished for 50c. per square inch.*

TRADE-MARKS REGISTERED IN JULY, 1877.

[Concluded.]

Medicinal Preparations.

4,943. Lafferty & Co., Richmond, Va. The arbitrary words "Vest Pocket."

4,956. R. V. Pierce, Buffalo, N. Y. The fac-simile of the signature "R. V. Pierce, M.D."

4,957. The same.

4,968. Greene, Lindley & Bentley, Cincinnati, O. The monogram composed of the letters "G., L. & B."

4,970. Simon H. Kennedy, Omaha, Neb. A monogram composed of the letters "S. H. K."

4,974. R. V. Pierce, Buffalo, N. Y. The pictorial representation of a mask, or quartering view of the upper and middle third of the human face, used in connection with the words "Dr. Sage's Catarrh Remedy."

4,976. John M. Richards & Co., New York. The word-symbol "Castroleum."

Soaps.

4,971. McCullough Soap Company, Milwaukee, Wis. "The symbol formed of the letters 'C. E. N.,' 'I. A. L.,' figures 10, and the representation of an eye."

4,972. James McKeone, Philadelphia, Pa. "A picture of the head and bust of a man, thrown in oval upon the rays of light, proceeding from a pictorial representation of the sun's disk, upon the right; a rainbow upon the left, in connection with the words and characters, 'Original Chinese San Goon,' and six Chinese character writings."

4,979. John T. Schwachofer, Hunter's Point, N. J. "The bust of the female having the crowned head, and the word-symbol 'Saphia.'"

Miscellaneous.

4,932. Young, Ladd & Coffin, New York, N. Y. A monogram composed of the letters and character "Y., L. & C.," together with the figure of sunbeams. (Perfumery).

4,959. Smith & Parell, Brooklyn, N. Y. The letters and character "L. & S."

Miscellaneous.

4,965. Philipp Dornbusch, Nashville, Tenn. "The letter 'D.' traversed by an arrow." (Aromatic beverage.)

4,978. Riverside Mills Co., Crugers, N. Y. "The word-symbol 'Tip-top.'" (Baking powder.)

4,982. Frank Wright & Brothers, Washington, D. C. "The word-symbol 'Pond Lilly,' and the representation of pond lilies." (Toilet wash.)

TRADE-MARKS REGISTERED IN AUGUST, 1877.

Medical Preparations.

4,989. Nathaniel K. Brown, Burlington, Vt. "The representation of the coat of arms of Vermont, used in connection with the words 'Brown's Compound Concentrated Fluid Extract of Buchu.'"

4,991. Cooke & Co., Washington, D. C. The word-symbol "Popolio."

5,000. Johnston, Holloway & Co., Philadelphia, Pa. "The word-symbol 'Holloway.'"

5,001. The same. The word-symbol "Heiskell."

5,005. Charles J. Moffett, Columbus, Ga. The word-symbol "Tuthina."

5,012. Ezra R. Wilbur, Fall River, Mass. The words "Doctor Wilbur's," and the fac-simile and portrait of E. R. Wilbur.

5,014. Company Fermiere, of the Thermal Establishment of Vichy, Vichy, France. "The oval medallion, with the representation of the thermal buildings."

5,024. Davis & Haydock, New York, N. Y. The word-symbol "Life" for the lungs, and the figure of a woman embracing a child.

5,026. Joseph J. Grindall, Baltimore, Md. The fanciful name "The Gipsey's Gift."

5,033. August H. Vordick, St. Louis, Mo. The fac-simile of his autograph.

5,035. Bedford Alum and Iodine Springs Co., New London and Lynchburg, Va. The figure of a fountain having at its base, or lower portion, the figure of a sea-dragon.

5,045. Albion P. Charles, Knoxville, Ill. The word-symbol "Eureka."

5,049. Dr. A. W. Chase & Son, Toledo, O. The letter "C.," as described in registered trade-mark of May 22, 1877, the portrait of Dr. Chase, and the fac-simile of his autograph.

5,087. Charles T. Hurlburt, Brooklyn, N. Y. The monogram consisting of the letters "C. T. H.," used in connection with the words "Hurlburt's Homœopathic Preparations."

5,094. Jacob M. Adams, Saratoga Springs, N. Y. The representation of a spouting spring, and the letter "G."

5,108. A. Vogeler & Co., Baltimore, Md. The words "Hamburger Tropfen."

Paints and Varnishes.

5,081. Heath & Milligan, Chicago, Ill. The word "Best" in red open letters, over which the name of the paint is printed in small black letters.

5,082. D. Rosenberg & Sons, New York, N. Y. The representation of a flag, combined with an annulus or belt.

Soap.

5,054. Luntz Brothers & Co., Buffalo, N. Y. The pictorial representation of a baby.

Dentifrices and Perfumery.

5,019. Rynear Otto Moses, New Orleans, La. The title "Philodante" (tooth friend), and the representation of a hand holding a tooth-brush, etc.

5,048. E. W. Hoyt & Co., Lowell, Mass. The word-symbol "German" (Cologne).

LABELS REGISTERED IN JULY, 1877.

[Concluded.]

1,124. "Mathis Dysentery Remedy." Charles B. Mathis, Toms River, N. J.

1,125. "Dr. Pierce's Favorite Prescription." R. V. Pierce, Buffalo, N. Y.

1,126. "Dr. Pierce's Compound Extract of Smart Weed." The same.

1,127. "Lundberg's Triple Extract of Jockey Club." Young, Ladd & Coffin, New York, N. Y.

1,128. "Nature's Remedy, Bedford Alum and Iodine Mass." Bedford Alum and Iodine Springs Co., Lynchburg, Va.

1,129. "Certain Cure for Headache." Geo. D. Coaney, Bayonne, N. J.

1,130. "Marvellous Cure for Chills and Fever." The same.

1,131. "Kidney Tea." Benjamin W. Dyer, New York, N. Y.

1,134. "Pennsylvania Baking Powder." H. C. Hopper, Philadelphia, Pa.

1,135. "Moody's Concentrated Fluid Extract of Sarsaparilla, Stillingia, and Yellow Dock." John C. Moody, San Francisco, Cal.

1,136. "Madame Lang's Perfect Nurser." Jeremiah Quinlan, New York, N. Y.

1,137. "Sanderson's Soap Crystals," Sanderson, Buchanan & Co., Chicago, Ill.

1,138. "Extract Florida Bouquet." H. Edward Windel, Philadelphia, Pa.

LABELS REGISTERED DURING AUGUST, 1877.

1,150. "Dr. Adam Bell's Fit Cure." Specific Medicine Co., St. Louis, Mo.

1,151. "St. Louis Dental Co." J. Speyer & E. C. Chase, St. Louis, Mo.

1,153. "Dr. Sanford's Liver Invigorator, or Liver Remedy." Samuel T. W. Sanford, Long Island City, N. Y.

1,156. "Neufeld's Italian Balm." John Hart & Abraham A. Myers, Lancaster, Pa.

1,157. "Clifford's Febrifuge." Joseph C. Richardson, St. Louis, Mo.

1,158. "Clifford's Febrifuge, or Fever and Ague Cure." The same.

1,159. "Directions for Using Clifford's Febrifuge." The same.

1,162. "Rocky Mountain Cough Syrup." W. H. Culmer, Salt Lake City, Utah Ter.

1,166. "Dr. Judge's Oxy-hydrogenated Air." J. D. Judge, Boston, Mass.

1,167. "Lautz Brothers & Co.'s Stearine Soap." Lautz Brothers & Co., Buffalo, N. Y.

1,168. "Murison's Catarrh and Bronchial Fumigator." James Murison, St. Louis, Mo.

PATENTS GRANTED DURING JULY, 1877.

[Concluded.]

July 24th.

Alkali, process and apparatus for putting up caustic, Hall & Hine	193,330
Can for packing and shipping paints, H. H. Hull	193,407
Cans for petroleum and other fluids, making paper, E. Waters	193,387
Dental drill, E. Osmond	193,456
Dental engine, tool stock, E. Telle	193,429
Evaporating pan, J. W. Miller	193,539
Exercising machine, J. P. Marsh	193,528
Filtering and cooling apparatus, J. W. Webb	193,432
Gymnastic instrument, indoor, C. Clemm	193,449
Medicinal compound, Fixmer & Jansen	193,326
Ozone generator, H. Spindelon	193,386
Refrigerating by means of ammonia, R. H. Lucas	193,375
Scales, weighing, A. Turnbull	193,576
Show-case, J. Hey	193,334
Sirup and mineral water, etc., H. L. Bowker	193,476
Sugar-process for the manufacture of milk, L. H. Witte	193,436
Syringe, C. E. Griswold	193,368
Vacuum cans, heating apparatus for, D. B. Cobb	193,488
Vinegar generator, Eisenbeis and Nau	193,324

July 31st.

Bottle-stopper, D. G. Hubbard	193,610
Corks from bottles, etc., device for preventing the unauthorized removal of, C. L. Bell	193,684
Filter and cooler, Peter and Walter	193,722
Hydrocarbon oils, production of deodorized heavy, J. Merrill (reissue)	7,826
Measure, liquid, L. B. Healey	193,761
Paint, D. E. Breinig	193,636
Spectacle frame, F. A. Wilson	193,739
Spectacles, indicator for, A. & B. Kent	193,660

Patents Granted during August, 1877.

August 7th.

Ammonia salts, obtaining, S. Cabot, Jr	193,920
Bottle-closing device, W. H. Hicks	193,870
Evaporating-pan, W. M. Dixon	193,934
Fertilizer, C. F. Panknin	193,890
Paint, mixed, W. Longman	193,974

July 14th.

Bottle-stopper, W. C. Hornfager	194,088
Bottle-stopper, W. Morgenstern (reissue)	7,847
Bottle-stopper, C. E. G. Winter	194,204
Can and measure combined, J. Sears	194,112
Copying book (for prescribers), W. A. Anderson	194,026
Evaporating-pan, H. Wood	194,283
Filter-press, J. Bowing	194,124
Furnace-stand, portable, J. N. Muller	194,101
Oil, grease, etc., process and apparatus for cleansing and purifying, R. D. Turner	194,275
Painter's striping instrument, L. Homan	194,039
Phosphoric acid used in manufacture of gelatine, recovering, N. B. Rice	194,050
Spirits from spent charcoal of rectifying filters, recovery of, E. A. McKeever	194,256

August 21st.

Bottle-stopper, W. Morgenstern	194,427
Bottle-stopper, T. A. Weber	194,491
Chair, invalid, Smith & Reily	194,477
Egg-tester, W. W. Dunbar	194,505
Fruit-press, G. A. Newsam	194,457
Mineral wool, treating, A. D. Elbers	194,422
Nursing-bottle, M. A. Michaels	194,454
Spectacles, L. Franklin	194,345

August 28th.

Barrel for holding volatile liquids, R. M. Munroe	194,529
Bottling-machine, W. A. Ross	194,726
Electro-therapeutic belt, J. Hobbs	194,520
Measuring and registering device for ascertaining the quantity and quality of distilled liquids, C. R. Wedelin	194,630
Medicine, horse and cattle, P. H. Rymal	194,727
Oil cabinet, J. S. Gold	194,596
Ozone machine, A. W. Sangster	194,729

PRESCRIPTIONS AND FORMULÆ.

Elixir of Thuja Occidentalis.

℞ Thuja occid. ..... ℥ xij.
Alcohol,
Glycerine ..... āā equal parts, q. s.

Percolate to 12 fluid ounces and set aside. Continue percolation to 12 fluid ounces more, evaporate to 6 fluid ounces, and mix with the first portion. Add an equal quantity (18 fluid ounces) of simple elixir. Each fluid drachm represents 20 grains of Thuja.

Glycerate of Thuja Occidentalis.

℞ Thuja occid. ..... ℥ viij.
Glycerine,
Alcohol ..... āā equal parts, q. s.

Percolate to ℥ viij., and evaporate to ℥ iv.

Fluid Extract of Thuja Occidentalis.

℞ Thuja occid. ..... ℥ xvj.
Alcohol ..... q. s.

Percolate to ℥ x., and set aside. Continue the percolation until the Thuja is exhausted, and evaporate the product to ℥ vj., to which add the first portion.

[The above formulæ have kindly been furnished us by Mr. William H. Lawes, of 259 Eighth Avenue, corner 23d street, who has for some time past prepared Thuja after this manner for the use of Prof. James R. Leaming, and others.]

Hydrobromate of Quinia for Hypodermic Use.—Dr. Jas. E. Morris, of Belleville, Texas, sends to the *Medical Record* a formula for a solution of hydrobromate of quinia in alcohol, grain for minim; to this solution water may be added in any proportion. When used hypodermically it is said to act promptly, and leave no scar. Among the advantages claimed for the solution, are its ready absorption, its quieting influence upon the nervous system, and the absence of fungous growths—the latter being attributed to the presence of alcohol.

Honey in Tinctures.—Tinct. cardam. co. and tinct. opii camph. both contain honey. Since the proportion is so small (1:20 and 1:16) that it cannot be of any moment, might the honey not be replaced by simple syrup?—HANS M. WILDER in *Am. Journ. Pharm.*, 1877, 440.

Lycopodium in Mixtures.—In order to make lycopodium miscible with water, it becomes necessary first to rub it dry under strong pressure (to powder it, as it were) before adding the water. A little alcohol (1:16) much facilitates the rubbing, and dispenses with the extra pressure. The lycopodium has to be rubbed until it forms a granular mass.—*Ibid.*

Volatile Liniment.—In one of the earlier volumes of the *Pharmacist*, R. Rother recommends the addition of a little oleic acid to the liniment of the pharmacopœia. This is a good idea; it prevents the separation so familiar to all, keeps it from solidifying, and makes it quite white. By the use of oleic acid, it matters not what kind of oil is taken; 6 to 10 drops to the pint of liniment is sufficient.—*Ibid.*

Hydrated Oxide of Iron.—The U.S. Pharm. precipitates solution of tersulphate of iron with water of ammonia, and washes it on a muslin strainer. In cases of emergency, the Pharmacopœia permits the precipitate to be merely pressed as much as possible while on the strainer. The procedure of the German Pharmacopœia is, however, quicker and easier. Sixty parts of solution of tersulphate of iron are mixed with 120 parts of water, and precipitated by a mixture of 7 parts of calcined magnesia and 120 of water. Shake well together, and dispense. In arsenic poisoning, certainly no objection can be found against the presence of sulphate of magnesia.—HANS M. WILDER, in *Am. Journ. Pharm.*, 1877, 440.

Copaiva Pills.—The U. S. Pharm. makes a pill mass by adding ℥ j of calcined magnesia to 2 troy oz. of copaiva, which mixture after several hours becomes solid enough to be made into pills. Unhappily, these pills are so seldom prescribed that few keep them ready made, and have to make them when called for. By using as much calcined magnesia as balsam of copaiva, a mass will be obtained which has sufficient consistence to enable it to be rolled out at once. The addition of one drop of water to each drop of balsam facilitates the solidification. If it is found desirable to prevent these pills from getting stone-hard, Hager, in his *Praxis*, recommends the addition of bees-wax: 200 copaiva, 20 bees-wax, 10 calcined magnesia, 2 water. Pills, or rather boles, of copaiva and cubebs are often prescribed by German physicians. The German apothecaries have for many years kept on hand a mixture of 1 bees-wax and 2 copaiva, of course taking a corresponding quantity of this mass (2 balsam = 3 mass) to make the boles.—*Ibid.*

Emulsion of Monobromated Camphor (*Lepage*).—Dissolve 1 part of monobromated camphor in 6 parts of almond oil with the aid of a gentle heat. Seven parts of the solution are mixed with 3 parts of powdered gum arabic, suspended in 6 parts of water. The necessary amount of syrup and water is then added in the usual manner.

To Clean Vessels that have contained Kerosene.—Wash the vessel with thin milk of lime, which will form an emulsion with the petroleum and remove all traces of it. By washing a second time with milk of lime and a very small quantity of chloride of lime, and allowing the liquid to remain in the vessel about an hour, and then washing it with cold water, the smell may be removed. If the milk of lime be used warm instead of cold, the operation will be rendered much shorter.

Liquid Shoe-Polish.—The following is from a German source: Dissolve 3½ oz. of shellac in a half-pint of alcohol. Rub smooth 25 grains of lamp-black with 6 drachms of cod-liver oil, and mix. A few drops are to be applied to the leather with a sponge.

To Remove Silver Stains from Fabrics.—This process is said to be especially successful in removing spots from materials which have been several times washed. First prepare a saturated solution of chloride of copper, dip the spotted piece in the solution, and allow it to remain some minutes, or according to the character of the stains. Then rub the stains with a crystal of hyposulphite of soda. When neutral chloride of copper is used, the color of the stuff does not change. This process can be repeated.—*The Photographic News.*

Gliricin is the name of a much-lauded rat-poison, made by an apothecary (Mr. Heinersdorf) of Culm. It is prepared by mixing finely cut fresh squill root with about half its weight of rye-flour, and as much fat, in a mortar, and passing the whole mass afterwards through a sausage-ma-

chine to insure a better division. It appears in form of a confection, and is said to be very deadly to all rodent animals.

Honey Wine.—Dissolve 30 pounds of honey in 50 quarts of water in a clean vessel. Boil the solution gently for two hours, skim, and let cool. Transfer it to a cask, suspend in it, through the bung-hole, a small bag containing a nutmeg and 1 drachm of cinnamon in coarse powder, and allow it to ferment. By adding bilberry juice, it may be colored handsomely red. When the fermentation is finished, it is allowed to deposit for three months before use. Another name for this is "mead."

Porcelain Cement.— Transparent gelatine, or good glue, is cut into small pieces, covered with a little acetic acid, and gently heated until it has melted together to a clear homogeneous mass, which hardens on cooling. When using it the warmed broken surfaces are brushed over with a small quantity of the cement, previously liquefied by warming, firmly pressed together, and allowed to remain at rest for about 24 hours.

Nachtmann's Miniature Leech-pond.—This has been highly recommended in a report to the Imperial Academy of Sciences of Vienna, and also by the Austrian Centennial Commission. It consists of wood, and contains two compartments—one large square one, which is to be filled with pieces of rich turf, and a smaller oblique space, to be filled with water, which gradually flows off through a pipe into the other reservoir. The leeches are said to remain entirely healthy and lively, and even to breed in this pond.

New Copying Ink.—A solution of extract of log-wood, showing 10° on Beaumé's scale, is mixed with 1 per cent. of alum, and sufficient lime-water to produce a permanent precipitate. A *few* drops of a dilute solution of chloride of lime are then added, just sufficient to impart to the mass a distinct bluish-black color, and afterwards dilute hydrochloric acid is added in drops, until the color has been changed to a distinct red. A sufficient (but small) quantity of gum is now added, and finally 0.5 per cent. of glycerine. This ink turns rapidly blue, or bluish-black, retains its fluidity, and copies easily.—(W. GINTL).

Indelible-ink Pencils have been patented by J. Fröscheis in Nuremberg. They only require to be wetted before marking the linen, or other material, and the application of a hot flat-iron at the back of the writing brings out the color, which is said to be absolutely indelible.

Purification of Potassium Cyanide.—This may be accomplished by Eneu Loughlin's method (*Am. Chem.*, v., 396), which consists in treating the commercial salt with carbon disulphide, which only dissolves the pure cyanide, and evaporating the solution.

Gong-metal, such as is used in China for the manufacture of the best gongs, is composed of iron 1, copper 82, and tin 17 parts.

Tinted Paper, for covering corks (Germ. Tekturpapier), may be prepared in any desirable shade as follows: 1 gm. of any aniline color is dissolved in 30 gms. of strong alcohol, 300 gms. of distilled water are added, and finally a solution of 1½ gm. of tannin in 15 gms. of alcohol. The tannin acts as a mordant. Moderately-sized white paper is spread on a marble-slab, or other smooth, hard surface, and the coloring liquid is applied in even horizontal lines by means of a small sponge. The paper is then hung up to dry, and may be covered after a few days with a concentrated solution of sodium silicate, to every 100 parts of which 10 parts of glycerine have been added, if it is desired to impart to it a gloss.

Remedy in Typhoid Fever.—A new remedy, proposed by Dr. Netter, of Strassburg, to be used in typhoid fever, has been published in the *Siècle*. Its salutary effects are officially authenticated. It consists of a decoction made of 1 litre barley-water, 100 grammes vinegar, and 120 grammes liquid honey, with which the throat, mouth, and nares are to be washed out, in order to remove organic matters which are secreted and deposited there, and which decompose and are likely to be swallowed or reabsorbed with increased toxic effects.

To make Shoes Water-tight.—The following recipe is from the *Droguisten Zeitung*: A litre of boiled linseed-oil, 125 gm. of mutton suet, 46 gm. of wax, and 32 gm. resin, are melted together on a charcoal fire, under constant stirring, and the melted mixture applied to the well cleaned and dried shoes. The leather retains its full elasticity, and becomes absolutely impervious to water.

Corizzino.—This is the name of a new kind of snuff, highly recommended in coryza. It consists of 10 parts sodium salicylate, 20 parts powdered rose-leaves, and 70 parts good ordinary snuff.

Silvering of Glass.—Prof. Himly recommends the following method: Dissolve 17 parts of silver nitrate and 28 parts of Rochelle salts, each separately in distilled water, and mix the solutions. A curdy precipitate of silver tartrate is formed, which settles soon to the bottom. The supernatant liquid is poured off, the precipitate is washed two or three times by decantation, and finally preserved, covered with distilled water, in a glass-stoppered vial. When desiring to use it, the mixture is well shaken, and very dilute ammonia is added (under shaking), until only a small quantity of silver tartrate is undecomposed. *All excess of ammonia must be avoided.* After a few minutes the liquid begins to deposit metallic silver upon the sides of the vial, but this action is retarded by adding a sufficient quantity of distilled water to correspond to the volume or surface of the object to be silvered. As soon as the liquid has become clear, from the deposition of the silver tartrate still present in excess, the clear liquid is poured into or upon the glass object. It at once begins to act, and after 20 minutes the deposition is complete.

To Impart a Bright Green Color to Preserved Vegetables.—Mr. H. Guillemare has made a communication to the French Academy (in the session of April 9th) in regard to a new process for preserving the bright green color of preserved vegetables without the aid of copper. This consists in immersing the vegetables, before final boiling in the tins, into boiling water containing a lake of chlorophyll. The lake is obtained by treating green parts of plants (spinach or leaves of leguminous plants) with solution of soda, precipitating with alum, and dissolving the resulting precipitate in alkaline phosphates.

To remove the Tin from Tinned-Copper Vessels.—According to Prof. Boettger, this may be accomplished with ease by filling the vessels with, or immersing them into, a concentrated solution of ferric chloride. In a few minutes the coat of tin will have disappeared, and it only remains to scour the vessels with sand moistened with very dilute hydrochloric acid.

Formulæ for Perfumes, by William Saunders.

[*Continued from page 92.*]

Millefleur.

Otto rose, virgin	1 drachm
" red cedar wood (true)	1 "
" orange (new)	1 "
" pimento	20 minims
Ext. orris	6 ounces
" jasmin	2 "
" styrax	1 ounce
" tonka	4 ounces

Pure spirit, sufficient to make 4 pints.

In this as well as in all the following extracts, before adding the last portion of the spirit, replace as much of it with water as the perfume will bear without becoming milky, which will vary from two to eight ounces or more. This addition will make the perfume softer.

Ylang Ylang.

Ext. tonka	3 ounces
" musk	4 "
" tuberose	4 "
" cassia	4 "
" orris	8 "
Otto orange (new)	2 drachms
" neroli super	½ drachm

Pure spirit, sufficient to make 4 pints.

Spring Flowers.

Ext. orris	4 ounces
" jasmin	4 "
" musk	4 "
Otto bergamot	2 drachms
" neroli super	½ drachm
" verbena (true)	10 minims
" red cedar wood (true)	1 drachm
Benzoic acid	1 "

Pure spirit, sufficient to make 4 pints.

Wood Violet.

Ext. orris	12 ounces
" tuberose	2 "
" jasmin	1 ounce
" musk	4 ounces
Otto bergamot	2 drachms
" lavender (English)	1 drachm
" verbena (true)	10 minims
" amygd. amar	12 "
" coriander	6 "
" sweet flag	4 "
" bay leaves	4 "
Benzoic acid	1½ drachms

Pure spirit, sufficient to make 4 pints.

West End.

Ext. orris	12 ounces
" jasmin	4 "
" musk	8 "
" cassia	4 "
" styrax	1 "
Otto bergamot	3 drachms
" verbena (true)	15 minims
" neroli super	½ drachm
" rose, virgin	1 "
" red cedar wood (true)	1 "
Benzoic acid	1 "

Pure spirit, sufficient to make 4 pints.

Stephanotis.

Ext. cassia	4 ounces
" tuberose	4 "
" jasmin	2 "
" musk	8 "
" orris	8 "
" tonka	3 "
Otto rose, virgin	1 drachm
" neroli super	½ "
Benzoic acid	1 "

Pure spirit, sufficient to make 4 pints.

Rondeletia.

Otto lavender (English)	1 ounce
" cloves	½ "
" bergamot	½ "
" rose geranium (Turkey)	2 drachms
" cinnamon (true)	20 minims
" rose, virgin	10 "
" santal flav	1 drachm
Ext. musk	2 ounces
" orris	4 "
" vanilla	2 "
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

Frangipanni.

Ext. orris	4 ounces
" tuberose	2 "
" musk	4 "
" vanilla	2 "
" jasmin	2 "
" styrax	1 "
Otto neroli super	1 drachm
" rose virgin	½ "
" santal flav	1 "
" red cedar wood (true)	1 "
" pimento	½ "
" cassia	20 minims
" bergamot	½ drachm
" ginger	4 drops
" lavender (English)	6 "
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

Clove Pink.

Ext. jasmin	12 ounces
" orris	12 "
" musk	8 "
Otto rose, virgin	1 drachm
" cloves	2 drachms
" neroli super	1 drachm
" pimento	10 minims
" patchouly	20 "
" santal flav	2 drachms
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

Violet.

Ext. orris	2 pints
" tuberose	4 ounces
" vanilla	3 "
" musk	3 "
" tonka	2 "
Otto rose, virgin	1 drachm
" neroli super	40 minims
" pimento	12 "
" bergamot	1 drachm
Benzoic acid	1 "

Pure spirit, sufficient to make 4 pints.

Mignonette.

Ext. orris	12 ounces
" tuberose	4 "
" vanilla	4 "
" musk	2 "
Otto rose, virgin	1 drachm
" neroli super	1¼ drachms
" pimento	12 minims
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

ITEMS.

A New Botanical Survey.—A correspondent of the *New York Tribune*, writing from Washington, says:—"A letter written to Dr. Hayden by Sir Joseph Hooker, Director of the Royal Botanical Gardens at Kew, a day or two before his departure for England, outlines some important botanical work projected by himself and Dr. Gray, of Harvard. The following is an extract from the letter:

"'We shall hope to take Colorado as a central point for opening out the main features of the flora of North America, and discuss them in relation to it and to one another in a rather detailed manner. We hope to bring out clearly the contrasts between the Rocky Mountain flora and that of the forest regions of the East and West, including in the botanically defined Rocky Mountain region the whole of Central unforested North America from the west of the Mis-

sissippi to the base of the Sierra Nevadas. The region thus defined will be divided into, first, an Eastern plain; second, a central Rocky Mountain district proper, extending from Pike's Peak to the Wasatch Range; third, a Western district, that will include the desert country. The Rocky Mountain proper district again will be divided, vertically, into an Alpine, and, perhaps, a sub-alpine and lowland flora. The comparison of the flora with that of the mountain ranges of Asia and Europe will follow; and then we must see what we can do in the way of correlating any of the features with the glacial epoch and Lesquereux's vegetable fossils.'

"Sir Joseph Hooker expects to return to the United States in a few years, for the purpose of making the flora of the Atlantic coast an object of special scientific research."

Fatal Tobacco-Poisoning.—English journals report the death of a boy, three or four years of age, from tobacco-poisoning, who had used an old wooden pipe for blowing soap-bubbles. Although well at the time, he became sick an hour afterwards, presenting symptoms of narcotic poisoning, and died on the fourth day without rallying.

A Pharmaceutical School is about to be added to the University of Berlin, under the direction of Professor Oscar Liebreich, in which pharmacological, physiological, and chemical researches on medicines and their actions will be carried on. The Prussian Government is about to erect a building for the laboratory.

Destruction of a Turkish Industry.—Kezanlik, the city of roses, which has not long been relieved from the presence of the marauding Cossack, was until lately the centre of the traffic in attar of roses; but the beautiful plain, with its vineyards and its clumps of walnut trees, and its great gardens of roses, has been passed over four times by alternate waves of battle. The march of armies and bivouacs of 100,000 men have ruined the gardens, and the town itself was lately burned, the Turkish part first, and then the Bulgarian part.

It has been suggested that India is quite able to supply the deficiency, but this is doubtful, and there is a significance in the fact that the price of "rose oil" has made a great leap upwards within the last few weeks, the best being quoted in the British market at 40 shillings per ounce, with every probability of a further advance. Dr. Septimus Piesse, an authority on all matters relating to perfumes, states the average yearly production of attar in the now devastated districts to have been as follows: District of Kezanlik, 1,736 pounds; Gucupso, 754 pounds; Karadja-Bahg, 384 pounds; Yeni-Saghra, 108 pounds; Zoaghra, 98 pounds; say a total of 3,470 pounds, or 55,520 ounces.

The University of London has decided to admit women to its medical course.

The Revenue on Patent Medicines in Great Britain, during the year ending March 25th, amounted to £112,978.17.5, after an allowance of £5,242.15.2½ in discounts, etc.

Gastric Juice.—According to recent experiments of M. Laborde (Société de Biologie), free hydrochloric acid does not exist in gastric juice in the normal state.

School of Pharmacy in Paris.—A great school of pharmacy is being constructed in a portion of the grounds attached to the Luxembourg, at Paris, which will occupy the space of 17,000 square yards, and of which the laboratories will accommodate six hundred working students. The school will be opened in 1880.

Vaseline has been offered for sale in Potsdam, near Berlin, as a remedy for internal diseases. The vender was arrested and sentenced by the police justice to a fine of thirty marks, or, in lieu thereof, seven days' imprisonment.

The Illegal Exercise of Pharmacy in France. During the past year the following cases have been adjudicated before the Tribunal of Paris: ten persons, among them three pharmacists, were sentenced for selling secret remedies; the fines amounted to 25 francs in two, 50 francs in four, 100 francs in three cases, and 600 francs in one case. For carrying on the business under a borrowed diploma, two persons were sentenced to 500 francs and damages. For establishing a company with unlicensed persons, two others were sentenced to a fine of 500 francs and closure of the shop; and two were similarly sentenced for entering into partnership with persons having a diploma which did not entitle them to practise in the Departement of the Seine. Two persons were fined in 610 and 500 francs for carrying on the business without diploma, and two females were sentenced to 500 francs each for illegal exercise of the business of herbalists. Forty herbalists were sentenced to fines varying between 25 and 1,000 francs for illegally practising pharmacy. In all there were sixty sentences, and the fines altogether amounted to 26,252 francs. One case deserves further mention: A physician had ordered for one of his patients a mixture containing calcium phosphate and syrup of orange. The apothecary not having either article in stock, substituted in place thereof a mixture of cod-liver oil, quinia, and antiscorbutic syrup (see NEW REM., June, p. 184). He was sentenced to a fine of fifty francs, and publication of the sentence in three newspapers, at his own expense.

American Leather-cloth containing Lead.—The Imperial German Bureau of Health warns from the use of "American Leather-cloth," which is in great demand as a covering for children's carriages, and which contains no less than 42.7 per cent. of lead (calculated as metal). Children are thereby constantly exposed to slow lead-poisoning.

Obituary.—H. A. Weddell, in Poitiers, France, lately died at the age of 58 years. He was well known as an authority on the botany and chemistry of cinchona.

A Singular Offering.—The Medical Faculty of the University of Giessen, in accordance with a long-established custom among German universities, has presented to Prof. Phoebus, on the occasion of his fiftieth anniversary of his taking the degree of Doctor of Medicine, "as a testimonial of their particular regard," a treatise on "The Conditions of the Passage of Air into the Intestinal Canal during Respiration."

John Broughton, the chemist of the Cinchona Plantations in British India, has not been heard of since undertaking a journey from Ootacamund to Madras, during last year. As he was known to have a large sum of money in his possession, it is supposed that he has been waylaid and murdered.

The Development of Color in Flowers.—In the journal of the Scottish Meteorological Society, Mr. Buchan has given some interesting information with reference to the relation which the colors of flowers have to the date of flowering. He shows that "the *blues* are, on the average, considerably the earliest in flower; then follow in order the *whites* and *purples*, and lastly, the *yellows* and *reds*. It follows that the plants included in the British Flora clearly tend to arrange themselves, as regards the dates of flowering, in the colors of the spectrum, the average earliest being those which are nearest the part of the spectrum where the actinic rays are at the maximum."—*Medical and Surgical Reporter.*

The Risk of using Sugar containing Ultramarine.—Balland cautions from the use of impure or artificially "whitened" sugar, in the preparation of fruit-juices, lemonades, etc. Many manufacturers of sugar are in the habit of masking the yellowish tint of imperfectly decolorized sugar, by adding ultramarine; the quantity of the latter, although very small, is nevertheless enough to impart to acid fruit-syrups a bad taste of sulphuretted hydrogen. Ultramarine may be recognized by dissolving some sugar in 10 times its quantity of water, and examining the deposit after 24 hours. (*Zeitsch. Oesterr. Ap.—V.*)